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Continuous Air Monitoring Program

CINCINNATI 1962 - 1963

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE Public Health Service

Continuous Air Monitoring Program in Cincinnati

1962-1963

COMPILED BY

AIR QUALITY SECTION
LABORATORY OF ENGINEERING AND PHYSICAL SCIENCES
ROBERT A. TAFT SANITARY ENGINEERING CENTER

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service
Division of Air Pollution

Cincinnati, Ohio
January 1965

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Public Health Service Publication No. 999-AP-21

PREFACE

The Continuous Air Monitoring Program (CAMP) represents the first large-scale effort to obtain comparable, continuous, concurrent data on gaseous pollutant levels in the atmospheres of major American cities. A fundamental premise in the establishment of the program was the need for such data to augment research on the nature of air pollution and its impact on man and his environment. The Public Health Service wishes to encourage all interested research personnel to participate in the exploitation of the many avenues of investigation opened by this information.

The CAMP master data files are maintained on magnetic tapes for analysis by electronic computer, and duplicate tapes can be made available for use by anyone having access to computer facilities. Since data from the National Air Sampling Network, as well as large quantities of mortality, morbidity, meteorological, and socioeconomic data, are also available on magnetic tapes from various sources, the possibilities for computer analysis are almost limitless. Correspondence concerning the availability or use of CAMP data should be directed to the Chief, Air Quality Section, Laboratory of Engineering and Physical Sciences, Division of Air Pollution, Robert A. Taft Sanitary Engineering Center, 4676 Columbia Parkway, Cincinnati, Ohio 45226.

This publication presents the results of CAMP operation in Cincinnati, Ohio, during 1962 and 1963. Part 1 presents background information about the Cincinnati area to assist the reader in interpreting the data in the light of factors peculiar to Cincinnati. Part 2 contains a brief summary of the data and presents the analyses currently available, with interpretation and discussion. Part 3 summarizes the data as hourly, daily, and monthly mean concentrations to permit the use of this volume as a reference.

Similar publications summarizing operations in other cities (Chicago, Los Angeles, New Orleans, Philadelphia, San Francisco, and Washington) will be available during 1965, and volumes are planned for subsequent data. In addition, specialized reports describing specific analyses in detail will be prepared periodically. Studies of sample averaging times, of pollutant exposure, and of the ratios of peak to average concentrations are currently in process.

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ACKNOWLEDGEMENT

The Public Health Service acknowledges with appreciation the many contributions of cooperating local agencies to the operation of the Continuous Air Monitoring Program. In the publication of this volume with data from Cincinnati, Ohio, particular appreciation is expressed to the Cincinnati Bureau of Air Pollution Control and Heating Inspection, supervised by Charles W. Gruber, for the operation of the station and the provision of the station site.

ABSTRACT

This report presents results of the operation of the Public Health Service Continuous Air Monitoring Program (CAMP) in Cincinnati, Ohio, during 1962 and 1963. Data on atmospheric levels of sulfur dioxide, nitric oxide, nitrogen dioxide, total oxidants, total hydrocarbons, and carbon monoxide are analyzed and discussed. The data are tabulated as hourly, daily, and monthly mean concentrations. Background information about Cincinnati and descriptions of the instrumentation are included.

CONTINUOUS AIR MONITORING PROGRAM

INTRODUCTION

It has been estimated that as many as 6000 urban areas in the United States are affected to some degree by air pollution, but air quality measurements have been made in no more than a tenth of these communities.[1] Generally, the measurements are limited to particulate pollutants. Data from dustfall collectors and high-volume filter samplers are most frequently available; measurements of soiling in COH or RUDS units are less commonly made.*

In recent years there have been significant increases in the technical ability and legal authority needed to combat particulates in the air, and some urban areas have made gratifying progress in reducing such pollution. During this period, however, public awareness and official concern has been expanded to encompass the less obvious, but more complex, problems of gaseous pollution. Communities that have never been particularly concerned with particulate pollution are showing increased evidence of photochemical smog in periodic episodes of decreased visibility, eye irritation, and plant damage.

Available data on gases in the air are even more limited in distribution and in quantity than the sparse particulate data. The National Air Sampling Network of the Public Health Service has measured sulfur dioxide and nitrogen dioxide in about 50 cities by means of 24-hour integrated samples taken biweekly. The cost of more frequent gas sampling has limited its routine use to the larger urban areas. The Public Health Service has intensively measured gaseous pollutants in smaller urban areas during cooperative air pollution surveys,[2,3,4] but these sampling programs have been conducted only for relatively short periods of time. The rare instances of daily, 24-hour sampling programs have usually been restricted to the collection of integrated samples of at least 2 hours duration, despite the knowledge that the concentrations of gaseous pollutants can change significantly within a few minutes.

The understanding of gaseous pollutants is handicapped not only by the scarcity of data, but also by differences among several methods and techniques of sampling for any single pollutant. This has limited comparison among and joint interpretation of the results of numerous studies. Concurrent data for more than one pollutant are almost completely lacking; this handicaps studies of the more complex effects and interrelationships.

The need for continuous, concurrent data for several gases, obtained by comparable methods in various communities, was recognized some years ago. It was apparent that the requisite sampling program would be far more difficult than any effort previously attempted. Completely satisfactory instrumentation was lacking. The subject itself--the rapid and concurrent variation of atmospheric pollutant levels--was little understood. The question of which pollutants could or should be measured was largely unanswered. Furthermore, few groups interested in air pollution could marshal the financial or manpower resources for such an undertaking.

In 1960, Congress provided impetus and financial support for a program capable of resolving some of the ambiguities of gaseous pollutants and their sampling. Public Law 86-493† directed the Public Health Service to accelerate research into the effects of air pollutants from motor vehicles on human health. Since such pollutants are largely gases, the Continuous Air Monitoring Program was established to measure the concentrations of various gases in the ambient atmosphere. The development of the necessary instrumentation was accomplished by the Public Health Service through a contract with a commercial instrumentation firm, and the operation of the program was assigned to the Air Quality Section of the Laboratory of Engineering and Physical Sciences, in the Division of Air Pollution. The first station was opened in Cincinnati in October 1961, and by early 1962 five additional stations were operating. At the present time these six stations are located in Chicago, Cincinnati, Philadelphia, San Francisco, St. Louis, and Washington, and monitor six common gaseous pollutants. They are operated in cooperation with the local air pollution control agencies. The equipment now located in St. Louis was operated in New Orleans during 1962 and 1963 and was moved to St. Louis in February 1964. Measurements comparable to those made in the CAMP operations are also obtained in Detroit, New York, and Los Angeles at stations provided and operated by local groups.

Insofar as practicable, station locations are comparable; stations are located in or near the principal business district in each city, and away from significant point sources. Since a CAMP station constitutes only one sampling site in a given community, the measured levels are specific only for the immediate vicinity of the station, although the data do have application to studies of the broad patterns of temporal variations and pollutant interrelationships affecting the entire urban area. Available information indicates that data from the present stations are representative of at least the central business districts of the respective cities.

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*COH (Coefficient of Haze) units are based on the transmission of light through a soiled filter; RUDS (Reflectance Units of Dirt Shade), on the reflection of light.

† Public Law 86-493, 86th Congress, H.R.8238, approved June 8, 1960.

OBJECTIVES

CAMP has two related objectives: (a) to increase knowledge about the nature of air pollution by providing information that was heretofore unavailable, i.e., comparable, continuous, concurrent data on significant gaseous pollutants from a number of urban areas; and (b) to stimulate air pollution investigations and control of pollution, where required, by providing such information. In fulfillment of these objectives, CAMP data have been made available through abbreviated interim summaries since the inception of the program. Sufficient information has now been accumulated to warrant the presentation and initial interpretations given in this series of reports. It is anticipated that the increased availability of this information, through these publications and in subsequent more detailed publications, will encourage its application to many problem areas.

Information provided by CAMP makes possible the intra-community study of the concurrent variation of several gaseous pollutants and their effects. Analysis of CAMP data has already demonstrated the occurrence of significant photochemical reactions in communities other than in California, and further investigation of this phenomenon is anticipated. The data are presently being utilized in conjunction with meteorological data in mathematical diffusion models, studies of the effects of large single sources of pollution on ambient concentrations, and the differentiation of temporal and geographic pollutant patterns.

The delineation of the impact of air pollution on man and his environment is dependent on knowledge of the diurnal and seasonal variability of pollutant levels. In the field, CAMP data are now being used in corrosion studies and epidemiological studies of health effects. In the laboratory, the data have application to the selection of realistic pollutant concentrations and combinations for the exposure of animals and plants. The effects and behavior of pollutants can be examined in terms of various time-concentration arrays. CAMP data also provide necessary information for the evaluation of proposed air quality criteria and the impact of applying such criteria through air conservation programs.

The improvement and development of techniques for assaying air quality are also of considerable importance. Relationships of peak to average concentrations over various periods of time are expected to provide guidance for the optimum usage of continuous and integrating types of instrumentation. Similarly, studies of pollutant interrelationships may indicate that one pollutant, or a combination of a few, can provide a good index to the behavior of others. Either of these factors can affect the type and cost of air quality measurements.

Continuous
Air
Monitoring
Program

PART 1:
CINCINNATI, OHIO

PART 1: CINCINNATI, OHIO

This discussion of the Cincinnati area is included to facilitate an understanding of the interpretations of the data in Part 2 in the light of factors peculiar to Cincinnati, and to assist in evaluating their applicability to other locations.

TOPOGRAPHY AND LAND USE

Cincinnati is situated in southwestern Ohio, on the Ohio River. Metropolitan Cincinnati includes the urbanized areas of northern Kentucky and is about 16 miles east of the Ohio-Indiana border. The entire area is part of an upland plain about 900 feet above sea level, with the flood plain of the Ohio some 400 feet lower (Figure 1-1). Downtown Cincinnati is located in the basin formed by the junction of the Mill Creek and Licking River valleys with the flood plain of the Ohio.

The basin area and the flood plains are surrounded by steep bluffs rising 200 to 400 feet to the general level of the plateau. These bluffs are cut frequently by the valleys of small tributary streams, which produce an attractive setting of dramatic promontories and steep hills but render much of the land too rugged for normal urban uses.

As a result of its rugged terrain, Cincinnati is less densely built than most cities its size, and the various land uses tend to be well isolated (Figure 1-2). The central business district in the basin area is the only dense concentration of commercial activity; the only dense (more than 20 persons per acre) residential concentration fills the remainder of the basin and a part of the plateau between the Ohio River and the Norwood trough, which has relatively gentle slopes. This area is the oldest portion of the city, and the structures are generally old and more densely built than elsewhere. Other residential areas, newer and less dense, occupy the hilltops surrounding the basin. Table 1-1 presents population and housing statistics for the Cincinnati area, with data from several other midwestern cities and the nation.

Metropolitan Cincinnati is primarily an industrial area, with about a third of the employment in manufacturing industries and less than 1 percent in agriculture. The distribution of manufacturing activities by type of product is indicated in Table 1-2; the principal industries are aerospace, soap products, automotive, chemical, and machine tool manufacture. Industry is concentrated almost exclusively in the Mill Creek valley and the Norwood trough, since flooding limits the use of the Ohio and Little Miami flood plains. Although this topography provides excellent separation of industrial land use from most of the residential areas, the steep bluffs in general tend to hinder dispersal of air pollutant emissions.

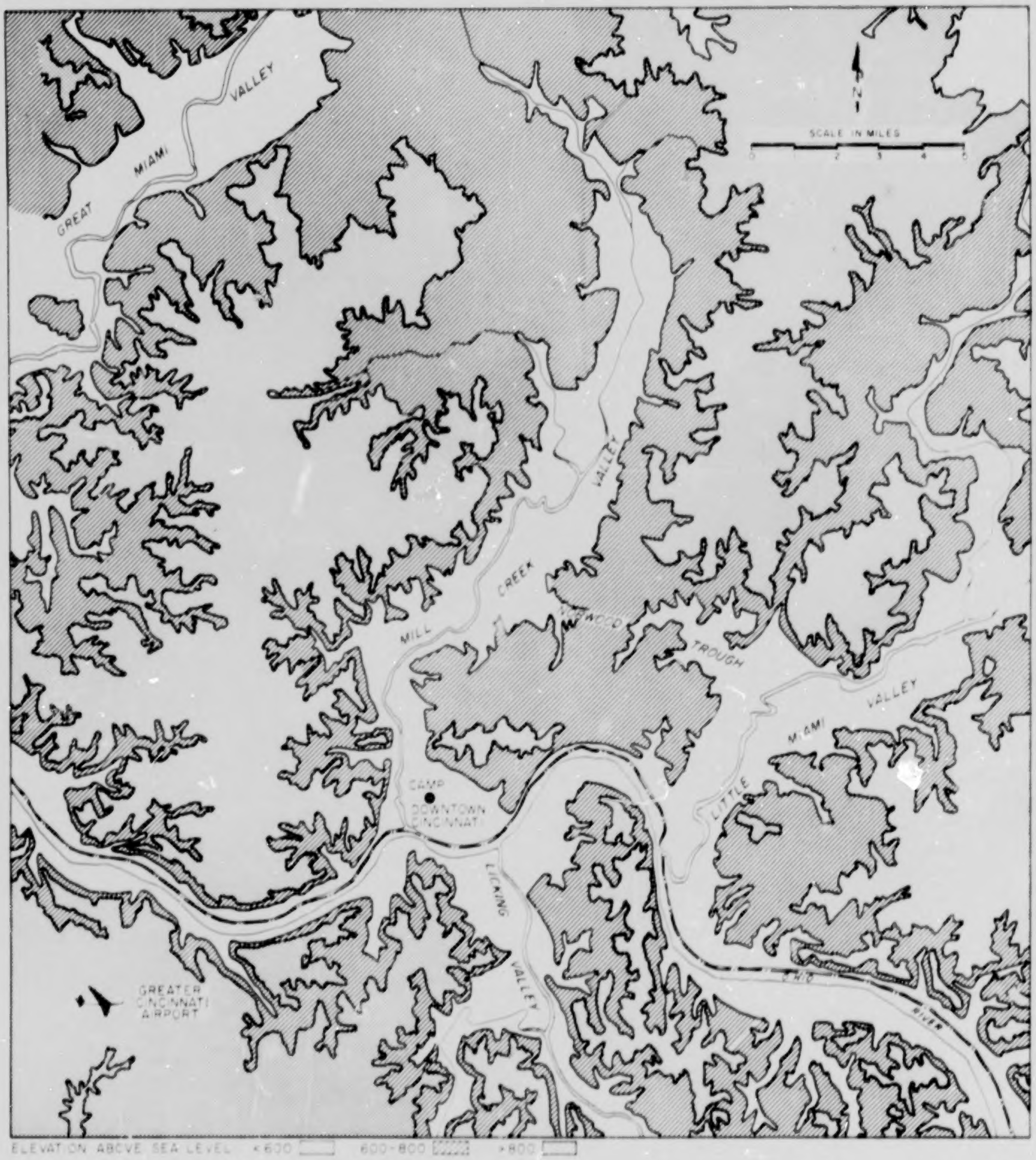
TABLE 1-1
COMPARATIVE POPULATION AND HOUSING STATISTICS

		POPULATION			HOUSING					INCOME		
	Area, sq mi	1960 Population	U.S. Rank	Density Per Sq Mile	Density, units per sq mi	Mdn No of Rms	Single Unit %	< 10 Yrs Old %	Sound %	Mdn $	< $3000 %	> $10,000 %
United States						4.9	76.3	27.5	74.0	5660	21.4	15.1
Midwest States[a]						5.1	58.9	24.3	77.1	6215	15.9	17.2
State of Ohio						5.2	79.1	25.3	77.6	6171	15.7	16.2
CINCINNATI												
SMSA[b]	730.0	1,071,600	21	1468	470	4.5	56.8	22.5	78.5	6318	14.9	18.2
Urbanized Area	242.5	993,600	17	4101	1330	5.4	54.0	21.0	79.2	6317	15.1	18.4
City	77.3	502,500	21	6501	2220	4.0	37.4	11.2	72.3	5701	19.6	15.8
CITY OF												
Buffalo	39.4	532,800	20	13520	4500	5.4	28.3	5.3	78.9	5713	17.3	13.1
Pittsburgh	54.1	604,300	16	11171	3630	4.6	56.1	8.7	70.1	5605	18.4	14.3
Indianapolis	71.2	476,300	26	6689	2230	4.7	72.5	15.1	76.4	6106	15.6	16.2
Cleveland	81.2	876,100	8	10789	3490	4.9	43.5	7.2	79.3	5935	17.2	13.0
Chicago	224.2	3,550,400	2	15836	5420	4.4	24.1	10.2	78.5	6738	13.6	21.3

[a] Ohio, Indiana, Illinois, Michigan, Wisconsin

[b] Figures represent the Standard Metropolitan Statistical Area (SMSA) consisting of Hamilton County, Ohio, and Campbell and Kenton Counties, Kentucky; in October 1963, the Bureau of the Census added four additional counties to the Cincinnati SMSA, making it the 16th largest in the nation with a population of about 1.3 million.

Source: Bureau of the Census, Reference 5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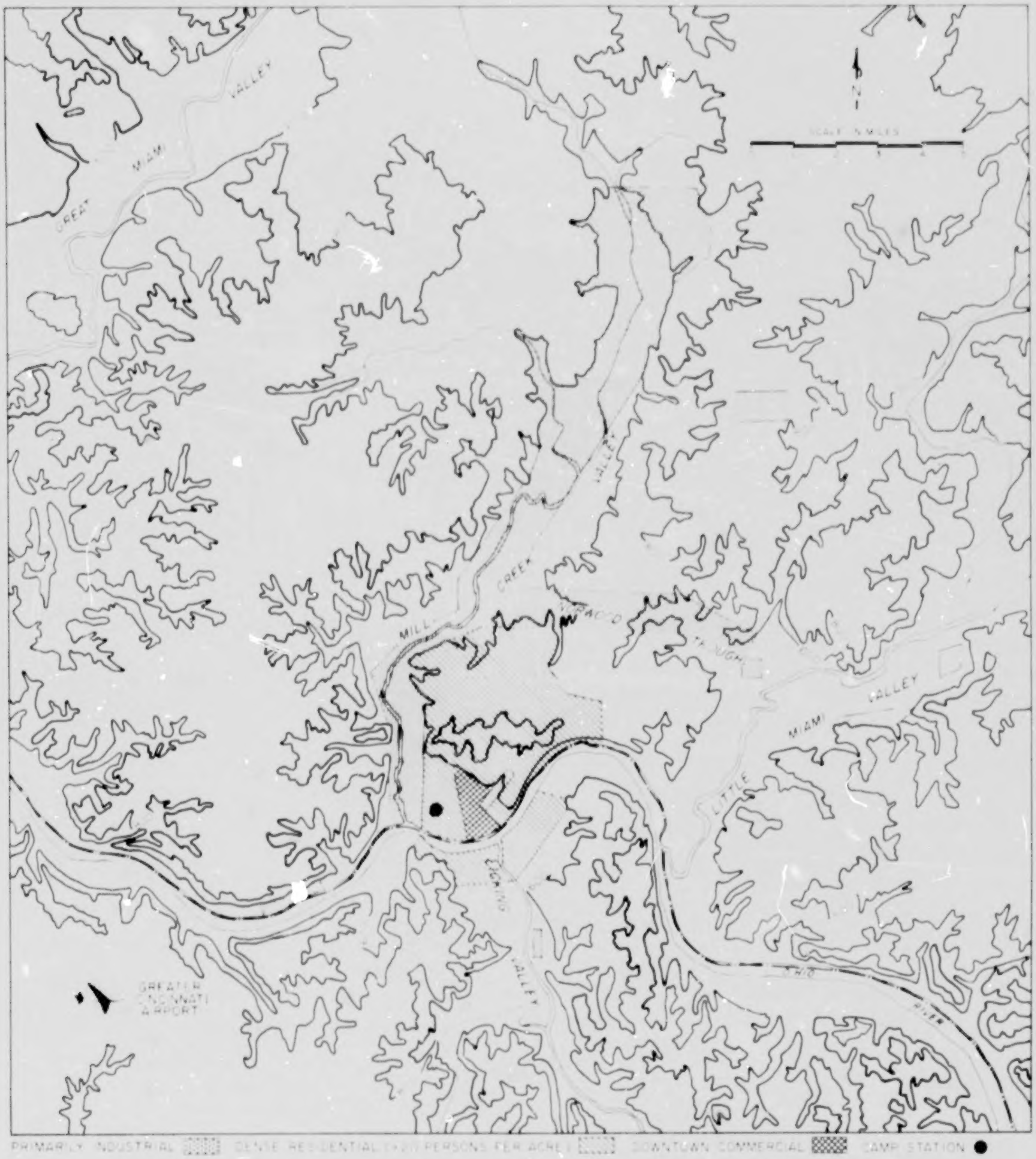
SCALE IN MILES
0 1 2 3 4 5
GREAT MIAMI VALLEY
MILL CREEK VALLEY
NORWOOD TROUGH
LITTLE MIAMI VALLEY
CAMP
DOWNTOWN CINCINNATI
LICKING VALLEY
OHIO RIVER
GREATER CINCINNATI AIRPORT
ELEVATION ABOVE SEA LEVEL <600 600-800 >800

Figure 1-1. Topography of Metropolitan Cincinnati.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SCALE IN MILES
GREAT MIAMI VALLEY
MILL CREEK VALLEY
NORWOOD TROUGH
LITTLE MIAMI VALLEY
LICKING VALLEY
OHIO RIVER
GREATER CINCINNATI AIRPORT
PRIMARILY INDUSTRIAL ▨
DENSE RESIDENTIAL (>20 PERSONS PER ACRE) ▨
DOWNTOWN COMMERCIAL ▩
CAMP STATION ●

Figure 1-2. Land Use Areas in Metropolitan Cincinnati.

TABLE 1-2
DISTRIBUTION OF MANUFACTURING ACTIVITIES
Cincinnati Metropolitan Area

Type of Product	Number of Firms, percent	Approx. Employment	Number of Firms Employing over 250[a]
Ordinance and accessories	0.3	No Data	1
Food and kindred products	10.9	18,000	17
Tobacco manufactures	0.2	No Data	1
Textile mill products	0.8	No Data	0
Apparel, other fabric products	4.9	7,800	14
Wood products (except furniture)	3.6	800	0
Furniture and fixtures	3.8	4,700	4
Paper and allied products	3.5	6,400	7
Printing, publishing industries	8.6	11,900	10
Chemicals and allied products	6.3	11,600	9
Petroleum and coal products	0.8	1,900	1
Rubber and plastic products	2.8	300	4
Leather and leather products	1.4	1,806	0
Stone, clay, and glass products	4.0	1,600	4
Primary metal industries	3.4	No Data	4
Misc. fabricated metal products	12.8	13,400	12
Machinery (except electrical)	15.4	27,700	20
Electrical machinery and supplies	2.7	8,400	10
Transportation equipment	2.2	26,400	6
Instruments and similar products	2.7	1,300	2
Miscellaneous	8.9	10,990	6

[a] Represents 112 firms; i. e., duplication has been included.

Source: Percent of Firms and Approximate Employment - Hamilton County Regional Planning Commission, Reference 6.

Number of Firms Employing Over 250 - Cincinnati Chamber of Commerce, Reference 7.

SOURCES OF AIR POLLUTION

Cincinnati is characterized by nearly complete absence of the so-called "dirty" industries; the area's only oil refinery is located 13 miles west of Cincinnati, and there are no basic steel activities. Process losses from industrial activities nearer the central city are considered to cause, at most, limited-area nuisances; the primary air pollutant emissions from the concentrated industrial districts in the Mill Creek valley and Norwood trough are fuel combustion products, largely those associated with the use of coal.

The distribution of fuels used for space heating follows a typical pattern. Coal and natural gas are used in the downtown commercial and older residential areas, primarily the basin area, and in the industrial valleys. Use of fuel oil is heaviest in the suburban areas. Natural gas is used throughout the area, the light commercial and newer residential districts heating with gas almost exclusively.

Of the total energy annually consumed for all purposes except transportation, coal combustion produces 60 percent, natural gas 35 percent, and fuel oil 5 percent. Annual coal consumption amounts to 5 million tons, with peak usage about 20,000 tons daily, and annual fuel oil consumption is about 50 million gallons. The coal and fuel oil for space heating contain less than 1 percent sulfur. Consumption of natural gas varies from 63 to 525 million cubic feet daily, totaling about 70 billion cubic feet annually.

Public electric power is generated at three stations with a total capacity of over 1.4 million kilowatts. Only the downtown station, however, is located so that its emissions contribute significantly to air pollution in the central city. This power plant operates as a regulating unit, and annually burns about 360,000 tons of coal with sulfur content averaging 4.3 percent. Particulate control equipment is considered as 95 percent efficient, and gaseous emissions are estimated to average about 80 tons of sulfur dioxide and 4 tons of nitrogen oxides daily.

The only industry of size and nature such as to be considered a significant single point combustion source is a steel mill in Campbell County, Kentucky. This rolling mill is the largest single user of natural gas in the area, burning 5 million cubic feet daily. Four large refuse incinerators operate in the area, burning a total of about 1100 tons of mixed refuse daily; control equipment is estimated to reduce particulate emissions by 90 percent, and gaseous pollutant emissions from the incinerators are considered negligible.

Transportation sources consist primarily of motor vehicles, although railroad and river transport activities no doubt contribute slightly to the pollutant load in the Mill Creek Valley and riverfront areas. In 1962, there were 356,000 motor vehicles registered in Hamilton County; about 310,000 of these were passenger cars. This represents a density of 770 cars per square mile or one car per 2.6 persons in the county, and over 1500 cars per square mile in the urbanized area (U. S. average is one car per 2.9 persons). Vehicular fuel consumption annually totals about 200 million gallons of gasoline and 20 million gallons of diesel fuel, and varies 10 to 20 percent with the seasons.

METEOROLOGICAL POTENTIAL FOR AIR POLLUTION

Air quality is dependent not only on the quantity of pollutants discharged to the community air, but also on the amount of pollutant dilution in the atmosphere. Pollutants in the air may be dispersed horizontally by lateral mixing and downwind transport or by mixing in a vertical direction.

A seasonal summary of typical wind speeds in the Cincinnati area is presented in Table 1-3. The

TABLE 1-3
HORIZONTAL DISPERSION CHARACTERISTICS

	Average Wind Speed,[a] miles per hour	Horizontal Dilution Capacity[b]	Frequency of Poor Horizontal Dilution Capacity,[c] %
Winter	11.0	Good	27.7
Spring	11.4	Good	23.5
Summer	7.5	Moderate	54.2
Autumn	8.8	Moderate	43.0

[a] Data from Greater Cincinnati Airport

[b] On a scale of poor, moderate, good, excellent

[c] Wind speeds 7 mph or less

average wind speeds provide moderate horizontal dispersion during the warmer months and good dispersion the rest of the year.

The dilution of pollutants by vertical mixing depends primarily upon the vertical temperature difference through the lowest layer of the atmosphere. During daytime hours the lower air is typically warmer than the air aloft; in such a situation, the low-lying warm air tends to rise and the resulting air movements mix the pollutants throughout the entire depth of the lowest layer of air. The depth of this layer thus becomes a measure of the atmosphere's vertical dilution capacity during the day. The first two columns of Table 1-4 summarize this "mixing depth" by seasons for Cincinnati. The vertical dilution capacity ranges from poor in winter to excellent in summer, following the seasonal sunshine and temperature cycle.

TABLE 1-4
VERTICAL MIXING CHARACTERISTICS

	Average Mixing Depth,[a] feet above surface	Vertical Dilution Capacity [b]	Frequency of Poor Vertical Mixing Conditions,[c] percent			
			7AM	10AM	7PM	10PM
Winter	1700	Poor	41	21	17	40
Spring	4100	Good	57	6	2	41
Summer	5250	Excellent	66	4	4	57
Autumn	3280	Moderate	65	15	31	69

[a] Maximum daily value, usually occuring in mid-afternoon; observations made at Dayton, Ohio, but considered applicable to Cincinnati

[b] On a scale of poor, moderate, good, excellent

[c] A very stable layer based within 500 feet of the surface

During the nocturnal hours the cooling of the earth's surface lowers the temperature difference across the lowest air layer from its daytime value and lessens vertical mixing and dilution of pollutants proportionally. Under severe conditions the temperature difference can become inverted, i.e., the lower air cooler than that above; such an inversion essentially prohibits vertical dilution of pollutants.

The last four columns of Table 1-4 summarize the occurence in Cincinnati of very poor vertical mixing conditions, including periods of atmospheric inversion. Such conditions occur overnight most frequently during summer and autumn, but also significantly during the cooler months. A more obvious seasonal difference is that adverse nocturnal conditions occur earlier and tend to persist later during autumn and winter than during spring and summer.

Both summer and autumn are characterized by only a moderate degree of horizontal dilution and a high frequency of adverse conditions of nocturnal vertical mixing. In summer, however, the poor nocturnal mixing conditions do not form early in the evening nor persist into the morning, and vertical mixing is excellent in the afternoons. The autumn months, with a high frequency of persistent inversions and low wind speeds combined with only moderate afternoon mixing, are thus the period of overall poorest pollutant dilution in the atmosphere.

The autumn months are also the occasion for frequent severe inversions, which persist throughout the day or over several days. These lengthy inversions are caused by the stagnation of a warm anticyclonic weather system and are usually more severe than the more normal nocturnal inversions. Because wind speeds in such systems are generally very low, both horizontal and vertical dilution of pollutants are severely suppressed and pollutants can accumulate significantly. A program for forecasting such lengthy inversions delineated seven such situations affecting the Cincinnati area for 18 days during 1962 and 1963. Figure 1-3 indicates the pattern of severe inversion periods in the eastern United States. Such occurrences concentrate along an arc roughly paralleling the Appalachian mountains, with Cincinnati lying along the western edge.

The direction in which pollutants are dispersed is dependent upon wind direction; Figure 1-4 indicates the general wind pattern in the Cincinnati area. In all seasons, southwesterly winds predominate; westerly winds also are frequent during winter and spring. In general, this pattern would indicate the spread of pollution from the Mill Creek Valley industries into the residential areas of the northeast plateau.

Meteorological influences on air quality include, of course, not only the overall patterns of the extent and direction of pollutant dilution, but also innumerable specific smaller effects. One such effect that occurs frequently is the morning process of fumigation. Both decreased vertical mixing and generally lower wind speeds permit pollutants to accumulate overnight, usually in a layer a few hundred feet above the surface. As sunrise brings about a change in the temperature differential, the resulting vertical mixing brings the accumulated pollutants to the surface briefly before they are subsequently further dispersed vertically. This effect is seen as a sudden rise in pollutant concentrations, to what is often the highest level of the day, shortly after sunrise.

AIR POLLUTION CONTROL ACTIVITIES

Responsibility for air pollution control in the City of Cincinnati is vested in the Bureau of Air Pollution Control and Heating Inspection, under the direction of Charles W. Gruber. Air pollution control legislation has been in effect since 1903, and the last major change was enacted in 1947. The present ordinance regulates smoke emissions, combustion ash, and coal volatility for hand-fired equipment; it specifies design and control standards for all fuel-burning equipment, and requires permits for installation and annual inspection of major installations.

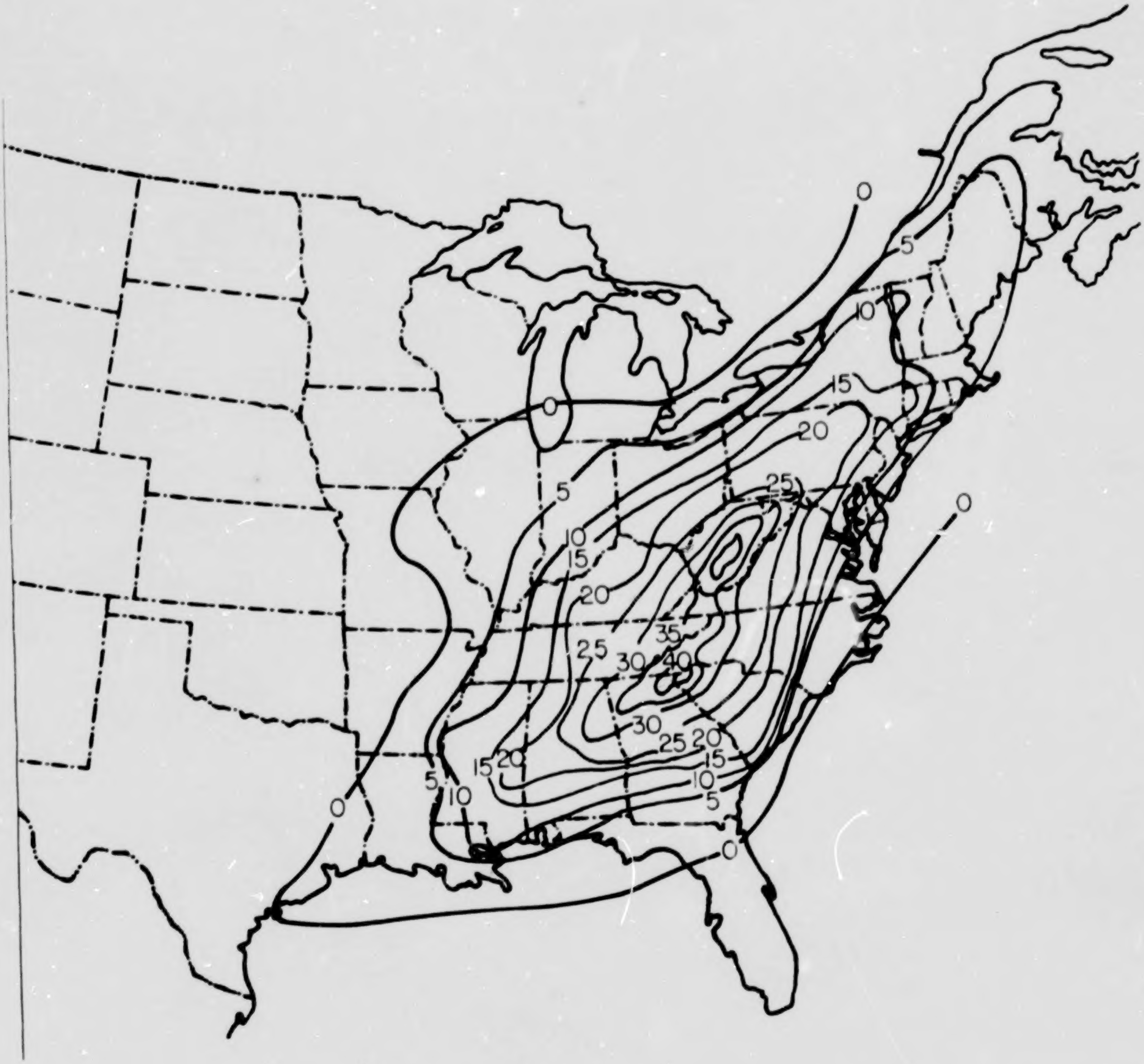
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Figure 1-3. Number of Days of High Air Pollution Potential, August 1960 - September 1963 (As forecast by U.S. Weather Bureau Research Station, Cincinnati).

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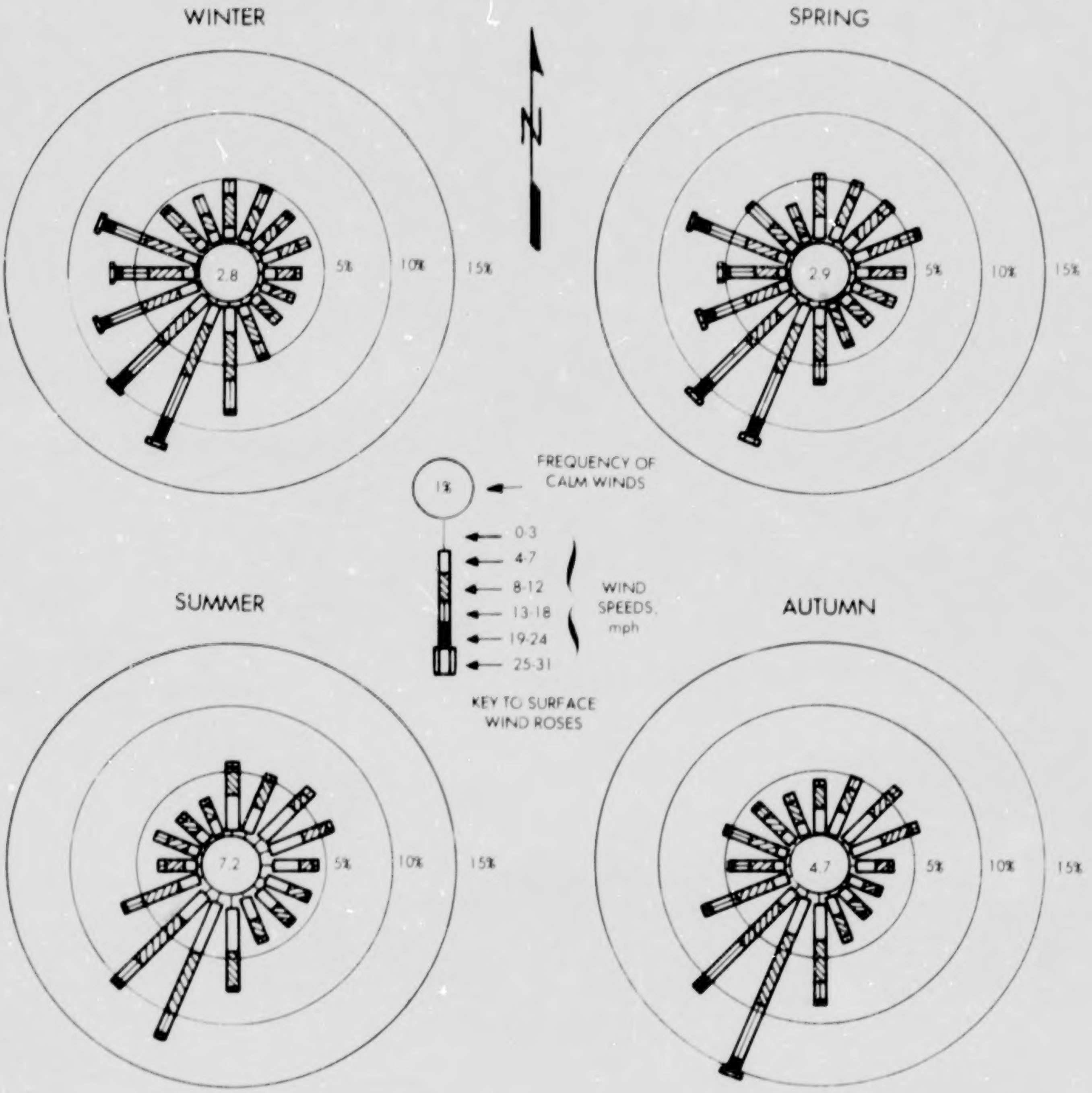

Figure 1-4. Seasonal Wind Roses at Greater Cincinnati Airport.

A 1957 ordinance regulates automobile exhaust emissions, and a required safety inspection annually rejects about one-fourth of 1 percent of cars inspected for having excessively smoky exhausts. An ordinance in effect since January 1963 sets design standards for the many small residential and commercial refuse incinerators, regulates emissions of fly ash from such installations with a locally developed simple particulate-count criteria, and sets a limit on permissible emissions of odors more definitive than the "nuisance" level previously used. Other air pollution problems are dealt with as public nuisances.

Several suburban municipalities (Figure 1-5), primarily the industrial cities in or near the northern Mill Creek Valley, have associated as the Intercommunity Air Pollution Control Program, which purchases services for pollution control and complaint investigation from the City of Cincinnati; this pioneer effort in voluntary area cooperation has met considerable success, with an estimated 50 percent drop in air pollution problems over the 7 years of the Program.

The Cincinnati Bureau of Air Pollution Control routinely collects data on dustfall and soiling index. Dustfall is measured at various locations throughout the city; in 1962 the average was 15.3 tons per square mile per month, about half the pre-control ordinace levels. Figure 1-5 includes 1962 dustfall data for various areas of the city as a rough indication of geographic variation in air quality. Soiling index values are recorded at three locations; 1963 levels were about 1.5 RUDS/1000 linear feet downtown, 0.8 on a nearby hilltop, and 0.6 at a more distant suburban site (see Figure 1-5). Figure 1-6 shows the trend of soiling index levels over the last 9 years.

The Cincinnati Bureau participates in the National Air Sampling Network by collecting biweekly particulate samples with a high-volume filter sampler on the roof of the downtown Public Library, about 80 feet above street level (Figure 1-5). Tables 1-5 and 1-6 present frequency distributions of the weight of total particulates and organic particulates over the last few years, with the average of similar-sized cities and the national average for comparison.

CAMP STATION SITE

The CAMP station in Cincinnati is located at the corner of Central Avenue and Ann Street, on a municipally operated parking lot. The site is in a largely open area near the western edge of the central business district, about 1800 feet north of the southern portion of the Mill Creek Expressway* and a mile north of the Ohio River. The nearest part of the Mill Creek Valley industrial area, about 1¼ miles to the west, is occupied by a railroad terminal, a sewage treatment plant, and the site of an urban renewal project. Some information has been gathered relating to the effect of nearby pollutant sources, but no definitive statement can yet be made.

At the CAMP station wind speeds were lower and prevailing wind directions different from those recorded at the Airport, presumably because of the topographic effect of the valley floor location. Hourly average data from the station are compiled in Figure 1-7 (compare with Figure 1-4). Wind speeds were consistently low, rarely exceeding 12 mph, and were highest in spring and lowest during summer and fall. Winds were most frequently from the west and northwest, rather than from the southwest as at the airport, and easterly winds were very rare. These patterns indicate at least some channeling of winds down the Mill Creek Valley.

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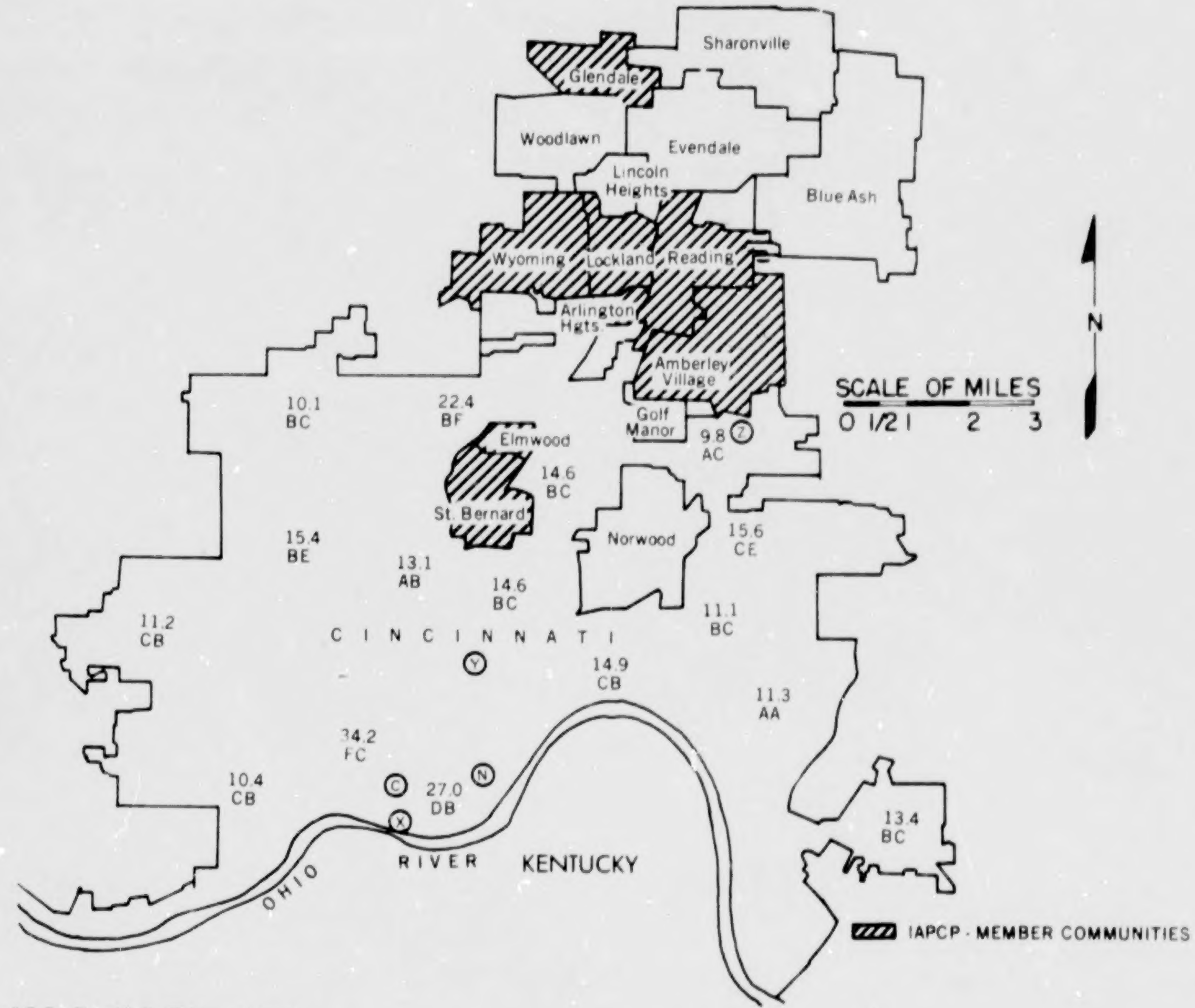
*This portion of the expressway was not opened to traffic until December 1963.


Sharonville
Glendale
Woodlawn
Evendale
Lincoln Heights
Blue Ash
Wyoming
Lockland
Reading
Arlington Hgts.
Amberley Village
Golf Manor
Elmwood
St. Bernard
Norwood
CINCINNATI
KENTUCKY
OHIO RIVER
N
SCALE OF MILES
0 1/2 1 2 3
10.1 BC
22.4 BF
9.8 AC
14.6 BC
15.4 BE
13.1 AB
14.6 BC
15.6 CE
11.1 BC
11.2 CB
14.9 CB
11.3 AA
34.2 FC
27.0 DB
10.4 CB
13.4 BC
▨ IAPCP - MEMBER COMMUNITIES
12.3 Dustfall (T/sq mi/mo)
AA Land Use Classification:
A - Residential, low density
B - Residential, high density
C - Commercial, neighborhood
D - Commercial, downtown
E - Industrial, low air pollution potential
F - Industrial, high air pollution potential
Sampling Sites
Ⓒ - CAMP Station
Ⓝ - NASN
Soiling Index
Ⓧ - Downtown
Ⓨ - Hilltop
Ⓩ - Suburban

Source: City of Cincinnati

Figure 1-5. 1962 Dustfall Distribution and Location of Control Activities.

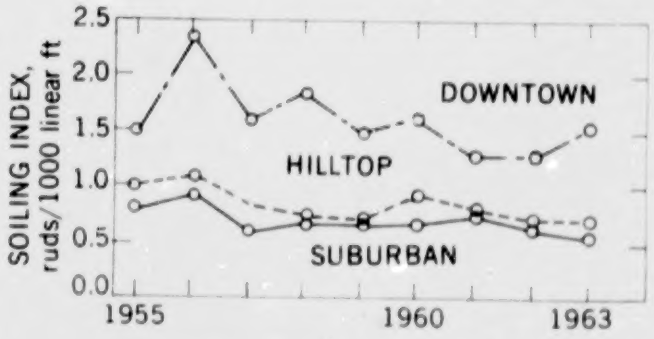


Figure 1-6. Soiling Index Levels, 1955 - 1963

TABLE 1-5
SUSPENDED PARTICULATE MATTER
National Air Sampling Network Station
Cincinnati
1957-1961

	No. of Samples	Concentration, micrograms per cubic meter													Std Geo Dev
		Min	Frequency Distribution, percent									Max	Arith Mean	Geo Mean	
			10	20	30	40	50	60	70	80	90				
1957	25	72	83	90	107	117	132	141	157	168	197	237	133	127	1.36
1958	22	89	94	103	115	123	130	137	144	180	214	319	145	137	1.39
1959	26	42	83	93	104	111	123	151	166	189	206	336	143	131	1.54
1960	24	63	64	107	117	130	136	142	151	180	214	316	145	136	1.45
1961	25	58	70	81	26	107	117	124	139	151	173	189	116	110	1.39
1957-1961	122	42	80	94	107	117	127	138	149	171	200	336	136	128	1.44
Winter	30	100	109	116	123	132	146	159	172	187	207	336	155	148	1.32
Spring	28	58	78	85	90	99	107	133	142	148	180	218	122	115	1.40
Summer	33	72	93	107	113	119	127	134	141	149	180	237	132	128	1.29
Autumn	31	42	64	76	87	99	117	135	158	180	214	319	135	120	1.63
Average of 19 cities Population 400,000-700,000	2133	15	58		85		112		145		216	977	129	113	1.68
National Average, 190 Cities	14494	6	48		74		101		137		212	1706	118	104	1.89

TABLE 1-6
BENZENE-SOLUBLE ORGANIC MATTER
National Air Sampling Network Station
Cincinnati, 1957-1961

	No. of Samples	Concentration, micrograms per cubic meter													Std Geo Dev
		Min	Frequency Distribution, percent									Max	Arith Mean	Geo Mean	
			10	20	30	40	50	60	70	80	90				
1957	25	2.1	2.7	3.8	5.8	6.6	7.4	8.1	9.6	12.2	17.0	18.8	8.2	6.9	1.87
1958	22	5.3	6.9	7.8	8.8	9.6	10.3	12.2	15.3	18.5	23.6	50.0	14.0	12.1	1.67
1959	26	2.2	5.3	6.0	6.9	7.4	8.8	9.9	12.2	17.0	23.6	47.9	12.2	9.7	1.95
1960	24	5.2	5.3	6.7	7.0	7.4	8.0	8.5	9.8	11.3	17.0	22.4	9.4	8.7	1.45
1961	25	4.1	5.0	5.6	6.5	7.0	7.7	8.2	9.6	12.2	14.4	15.4	8.5	7.9	1.45
1957-61	122	2.1	4.9	6.2	6.9	7.5	8.3	9.2	10.6	14.4	18.0	50.0	10.4	8.8	1.74
Winter	30	3.5	6.0	7.9	8.6	9.6	10.8	12.2	15.1	17.0	20.0	47.9	13.2	11.4	1.69
Spring	28	2.2	4.8	5.2	6.4	6.9	7.3	9.1	10.0	10.9	14.4	15.4	8.4	7.7	1.55
Summer	33	2.1	3.2	6.0	6.6	7.0	7.5	8.0	8.4	8.8	10.3	17.9	7.7	7.1	1.54
Autumn	31	2.2	4.9	6.3	6.8	7.2	8.5	10.3	15.3	18.5	22.4	50.0	12.5	9.9	1.94
Averages of 19 Cities Population 400,000-700,000	2109	0.8	4.0		6.2		8.3		11.7		20.1	109.6	10.8	8.7	1.91
National Average, 190 Cities	14461	0.0	3.0		5.2		7.4		10.6		19.3	123.9	9.9	7.6	2.08

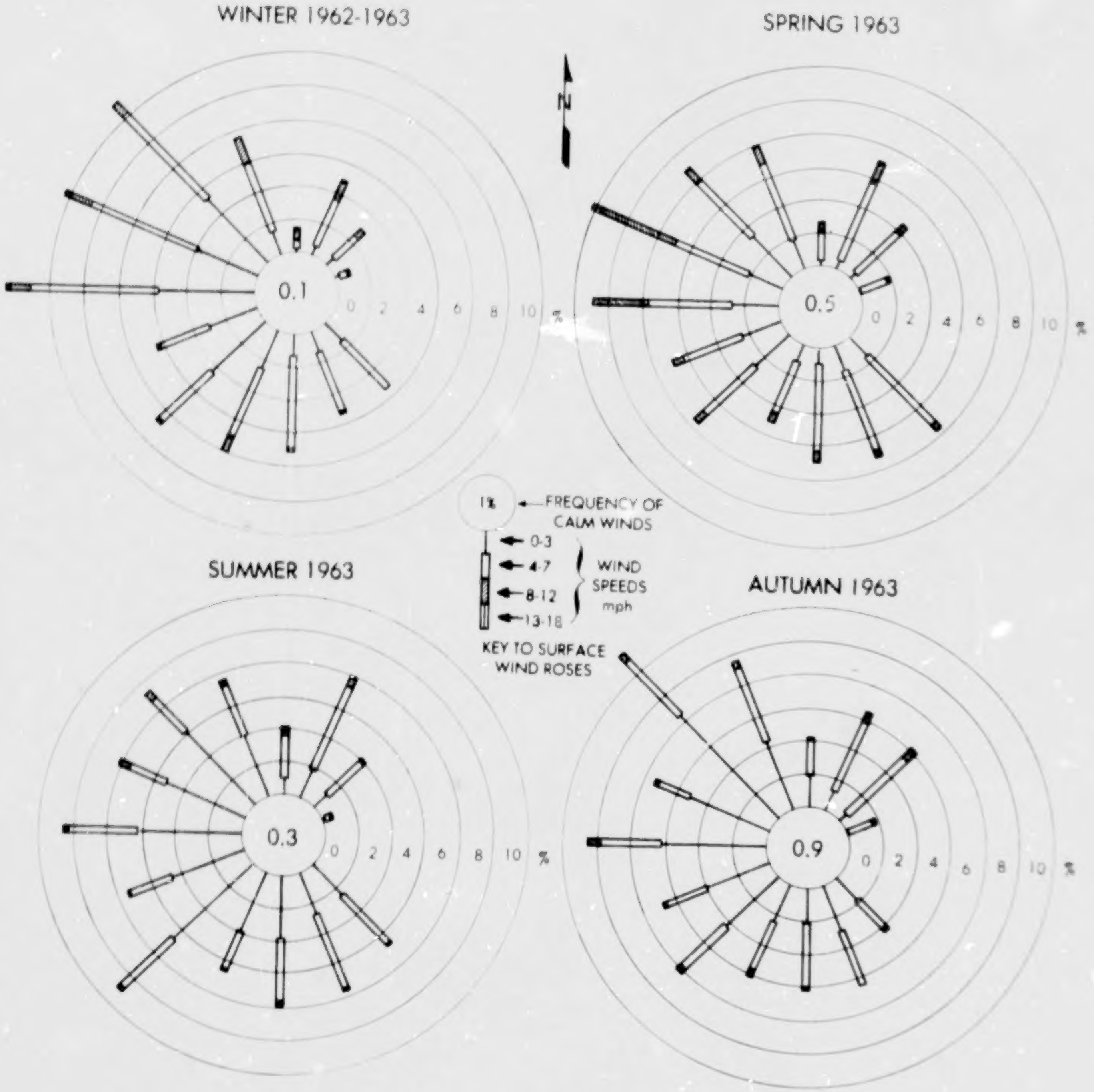


Figure 1-7. Seasonal Wind Roses at CAMP Station, December 1962 - November 1963.

Continuous
Air
Monitoring
Program

PART 2:
RESULTS AND ANALYSIS

PART 2: RESULTS AND ANALYSIS

SUMMARY OF RESULTS

During 1962 and 1963 the CAMP station in Cincinnati recorded over 829,000 valid measurements* of gaseous air pollutant concentrations; Table 2-1 summarizes the pollution levels and lists the periods for which data are available. Concentrations of the various pollutants ranged from maximum values 4 to 30 times the mean levels to minima below the sensitivity of the instruments. Although overall mean levels were generally low, significantly high pollutant levels did occur during the 2-year period. There were several incidents of photochemical smog and at least two periods of severe atmospheric stagnation with attendant high concentrations of pollutants.

Pollutant levels in Cincinnati are compared with those recorded at other CAMP stations in Figure 2-1. Total hydrocarbon concentrations observed in Cincinnati were generally the highest among the cities, while levels of sulfur dioxide, carbon monoxide, and oxides of nitrogen were intermediate. Total oxidant levels in Cincinnati were exceeded only by those in New Orleans; this is due at least in part to relatively low sulfur dioxide levels in both cities and the attendant lack of interference by sulfur dioxide in the measurement of total oxidants.†

TABLE 2-1
AIR POLLUTANT LEVELS [a]
Cincinnati CAMP Station, 1962-1963

	Maximum 5-minute Value	Arithmetic Mean	Median	Minimum 5-minute Value	Period of Data	Valid Data
Sulfur Dioxide (ppm)	0.99	0.030	0.02	< 0.005	1962-3	82%
Nitric Oxide (ppm)	0.60	0.030	0.02	< 0.005	1962-3	74%
Nitrogen Dioxide (ppm)	0.30	0.030	0.03	< 0.005	1962-3	79%
Total Oxidant [b] (ppm)	0.24	0.015	0.01	< 0.005	1962-3	68%
Total Hydrocarbon (ppm)	25	3.5	3	< 0.5	May 1962-3	84%
Carbon Monoxide (ppm)	31	7.0	7	<0.5	March-Dec 1963	50%
Soiling Index (COH/1000 ft)	6.0	1.60	1.4	<0.05	1963	47%
Suspended Particulates ($\mu g/m^3$)	389	137	121	49	1963	88%

[a] See Appendix A for measurement methods

[b] Oxidant data are not corrected for the interference caused by simultaneous sulfur dioxide occurrences (see Appendix A)

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*The basic CAMP data on gaseous pollutants are neither precisely instantaneous pollutant concentrations nor 5-minute average concentrations. The measurements represent the instantaneous value recorded by the instrument at 5 minute intervals. However, each of the instrument values reflects some degree of integration resulting from the characteristics of its instrument system.

† The effect of sulfur dioxide on the oxidant instrumentation is discussed in Appendix A.

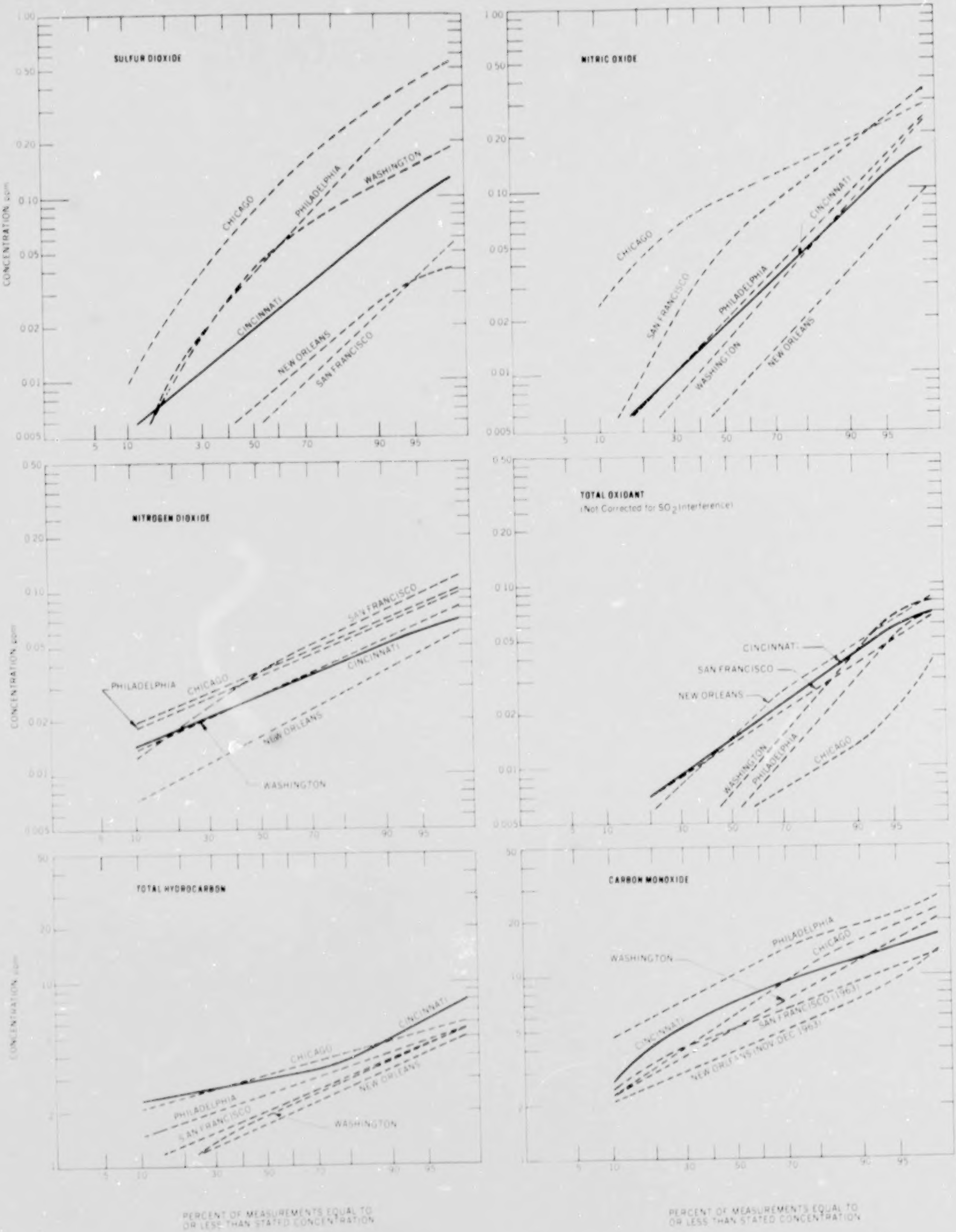

Figure 2-1. Pollutant Levels in Six CAMP Cities, 1962 - 1963.

Pollutant concentrations varied significantly about the gross 2-year means indicated in Table 2-1. Despite a low average level of 0.030 ppm, sulfur dioxide reached a maximum of nearly 1 ppm, exceeded 0.10 ppm about 5 percent of the time, and averaged about 0.5 ppm for half an hour or longer on six occasions during the 2 years. Sulfur dioxide levels exhibited a distinct seasonal pattern (Figure 2-2); monthly mean concentrations ranged an order of magnitude from a 0.005 ppm low in May 1963 to a high of 0.055 during January 1963.

Oxides of nitrogen concentrations varied less widely about their mean levels. Nitric oxide reached a maximum of 0.60 ppm, and nitrogen dioxide, 0.30 ppm. On 5 days during the 2 years nitrogen dioxide averaged 0.20 ppm or more for an hour or longer; on at least two of these occasions the high levels were accompanied by formation of photochemical smog.[*]

Although nitric oxide and nitrogen dioxide originate from the same sources, the variations in concentrations from month to month were strikingly different (Figure 2-2). Nitric oxide exhibited a distinct pattern of high winter and low summer levels, the monthly mean varying about five-fold from a low of 0.010 ppm in June 1962 to a high of 0.060 ppm in November 1962; in contrast, monthly mean levels of nitrogen dioxide ranged from 0.025 ppm (July 1963) to 0.045 ppm (October 1963). This difference reflects the role of solar radiation in atmospheric conversion of NO to NO_2. The effect of sunlight complements the seasonal source strength pattern of nitric oxide and largely negates such a pattern of nitrogen dioxide emissions.

Total oxidant concentrations exhibited a high-summer, low-winter, seasonal pattern due not only to variations in the amount of photochemical reaction but also to the changing levels of sulfur dioxide interference (Figure 2-2). Average monthly concentrations of total oxidant ranged from near zero during the winter to 0.040 ppm during September 1963. The peak 5-minute value for the 2 years was 0.24 ppm, and there were four hours of values of about 0.20 ppm. The concentrations of total oxidant equalled those recorded during the photochemical smog incident previously mentioned (0.10 ppm for several hours) on at least 17 days during the 2 years.

Total hydrocarbon concentrations ranged from a low monthly mean of 1.9 ppm during May 1962 to a high of 4.6 ppm in December 1962; levels exceeded 5 ppm 10 percent of the time and 8 ppm 2 percent of the time, and reached a maxima of 20 ppm or higher on five occasions. Although monthly mean levels were more often below average in the summer and above in the winter, no consistent pattern was demonstrated (Figure 2-2).

Carbon monoxide concentrations averaged 7 ppm, with a maximum of 31 ppm. Valid data, however, were so sparse because of instrumentation difficulties that the levels recorded may not be representative. Monthly mean concentrations varied from 4.0 to 10.5 ppm for the 4 data months that were valid.[†]

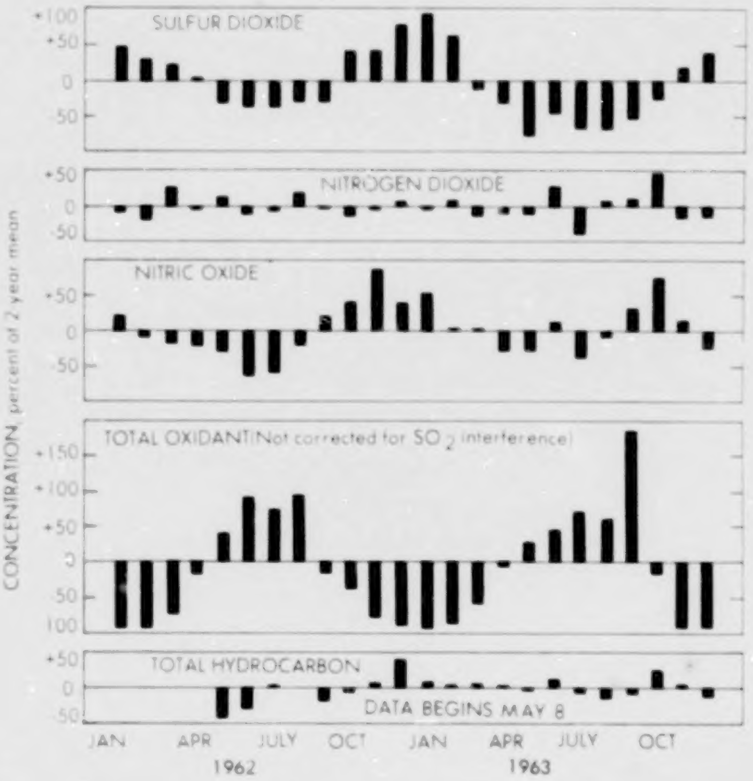

Figure 2-2. Monthly Variation of Gaseous Pollutant Levels.

POLLUTANT INTERRELATIONSHIPS

All of the pollutants exhibited distinct diurnal variations; the 2-year average patterns and those for each season are presented in Figure 2-3. Except for total oxidant, each pollutant's pattern showed several similar characteristics related to diurnal changes in atmospheric dilution and pollutant emission rates. The most obvious were morning peak levels, caused by fumigation with the pollutants accumulated overnight in low level inversions, and by the concurrent increase in emissions of most pollutants with the start of the day's activities. These peaks occurred at different times for the various pollutants, and were all followed by a decrease to the low point of the pattern as the dilution capacity of the atmosphere increased to a maximum in the afternoon.

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[*] May 16 and 17, 1962, as reported in Reference 10.

[†] The criterion used to define valid "data months", "data hours", etc., is that more than half the component data must have been valid (see Part 3).

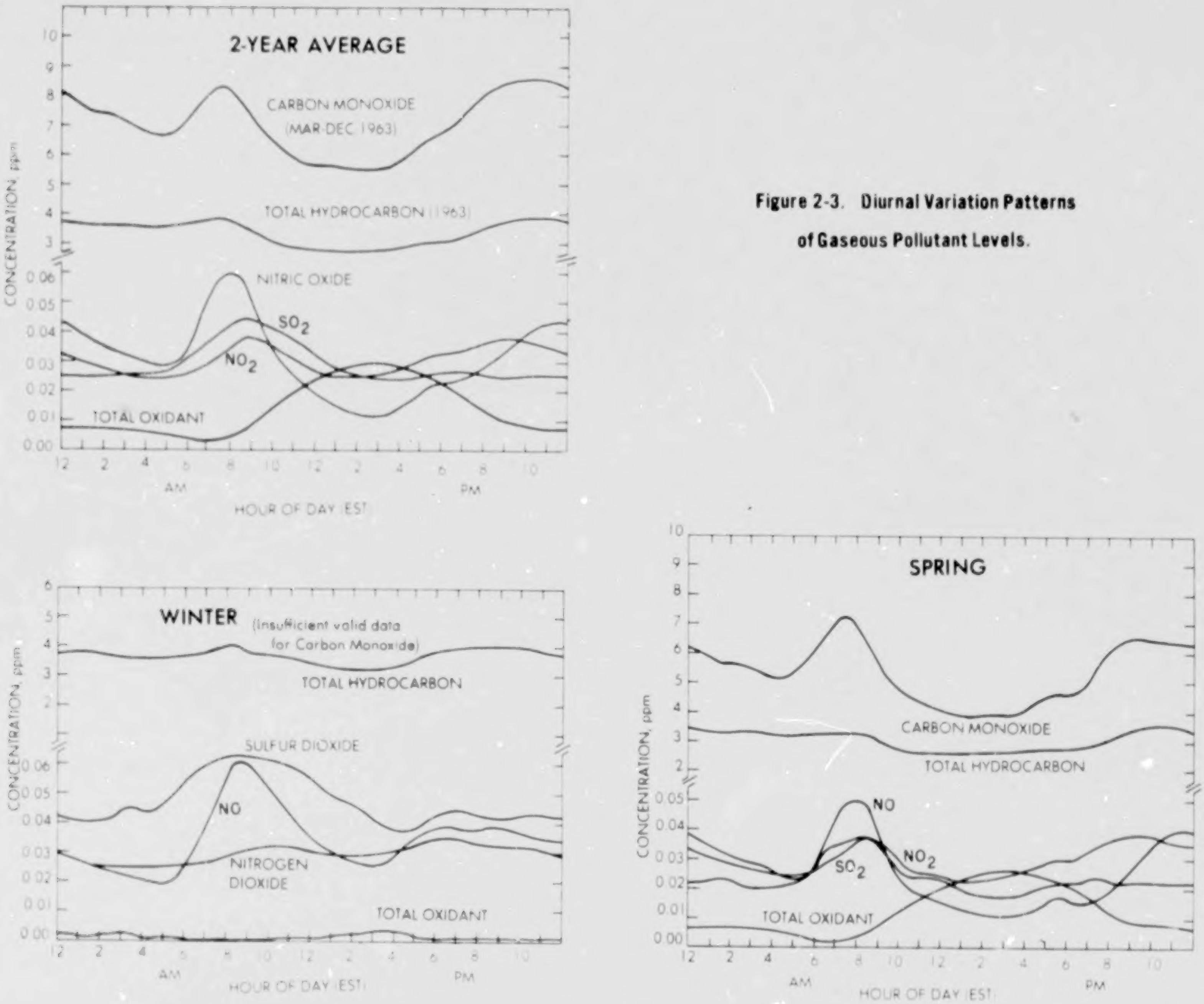

Figure 2-3. Diurnal Variation Patterns of Gaseous Pollutant Levels.

All the pollutants except sulfur dioxide and total oxidant exhibited increased levels during the evening with lessened atmospheric dilution, followed by a decrease in the early morning as human activities were curtailed. The sulfur dioxide pattern showed only a slight increase from 5 to 7 p.m., perhaps because of evening heating and the decreasing atmospheric dilution capacity; levels then remained essentially constant throughout the night.

The diurnal pattern of total oxidant levels was essentially the opposite of the others, with higher levels in the afternoon. This pattern reflects increased photochemical smog formation during the daytime hours in summer and the effects of the variable interference with the oxidant measurements by the changing levels of sulfur dioxide. Thus the low nocturnal levels in summer were further depressed in the morning when sulfur dioxide began to increase, and essentially no oxidant was recorded during the winter.

Concentrations of nitrogen dioxide and carbon monoxide varied little with respect to wind direction at the site (Figure 2-4). For each of the other pollutants, however, levels were significantly higher during hours when the wind was from a specific direction. Sulfur dioxide levels were highest when the winds were from the southsouthwest, indicating an effect from the downtown power plant. Nitric oxide and total hydrocarbon levels were highest with northwesterly winds, the former sharply so. The causes of these latter effects have not been determined with certainty, but they may be related to the nearby switching of diesel locomotives and sewage treatment operations, respectively.

In addition to an understanding of the nature and magnitude of the long- and short-term variations in levels of individual pollutants, the degree to which the several pollutants tend to vary together is also of interest. Some of the interrelationships among the pollutants can be quantitated by correlation and regression analyses. Although comprehensive correlation and regression analyses of the CAMP data are not yet available, the results of preliminary studies are presented herein.

Table 2-2 presents simple linear correlation coefficients between hourly mean concentrations of various pairs of pollutants.[*] The correlations are all positive and, with the exception of those between sulfur dioxide and nitric oxide, and sulfur dioxide and hydrocarbons, show no difference between summer and winter. On the basis of the similarities in the diurnal variations of the pollutants, compared in the table, the positive correlations were expected.

The simple linear correlations presented in Table 2-2 represent only the apparent relationship between two pollutants. Such relationships may be real or may reflect the dependency of the concentration of each pollutant on other factors. These difficulties in interpretation can be largely eliminated by using partial linear correlation coefficients. The partial coefficients are interpreted as representing the degree of relationship between two pollutants if the concentration of the other pollutants were held constant.

Partial correlation coefficients between pairs of the four pollutants are presented in Table 2-3. They indicate that there is no relationship between sulfur dioxide and total hydrocarbon in winter or summer and that the relationships between NO_2 and NO, and NO_2 and hydrocarbon, are dependent upon other factors, since the partial correlation coefficients are significantly lower than the corresponding simple coefficients.

In each analysis the coefficients for both seasons show a strong relationship between nitric oxide and hydrocarbons, no doubt indicative of a major common source.

The predominance of positive correlations in Tables 2-2 and 2-3 is no doubt strongly influenced by factors of meteorology and source strength not included in this analysis. Since a more extensive analysis of the data is in progress, further and more detailed discussion of the significance of the correlations among pollutants will be deferred to a later publication.

TABLE 2-2
SIMPLE LINEAR CORRELATION COEFFICIENTS
Cincinnati

	Winter 1962-1963	Summer 1963
SO_2 - NO	+0.39	+0.09[a]
SO_2 - NO_2	+0.44	+0.39
SO_2 - Hydrocarbon	+0.32	+0.11[a]
NO - NO_2	+0.48	+0.50
NO - Hydrocarbon	+0.72	+0.72
NO_2 - Hydrocarbon	+0.50	+0.49

[a] Not significantly different from zero

TABLE 2-3
PARTIAL LINEAR CORRELATION COEFFICIENTS
Cincinnati

	Winter 1962-1963	Summer 1963
SO_2 - NO	+0.31	-0.08[a]
SO_2 - NO	+0.34	+0.40
SO_2 - Hydrocarbon	+0.13[a]	−0.03[a]
NO - NO_2	+0.31	+0.25
NO - Hydrocarbon	+0.70	+0.62
NO_2 - Hydrocarbon	+0.42	+0.22

[a] Not significantly different from zero

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[*] Total oxidant has been omitted because of the SO_2 interference; carbon monoxide because of the small amount of valid data.

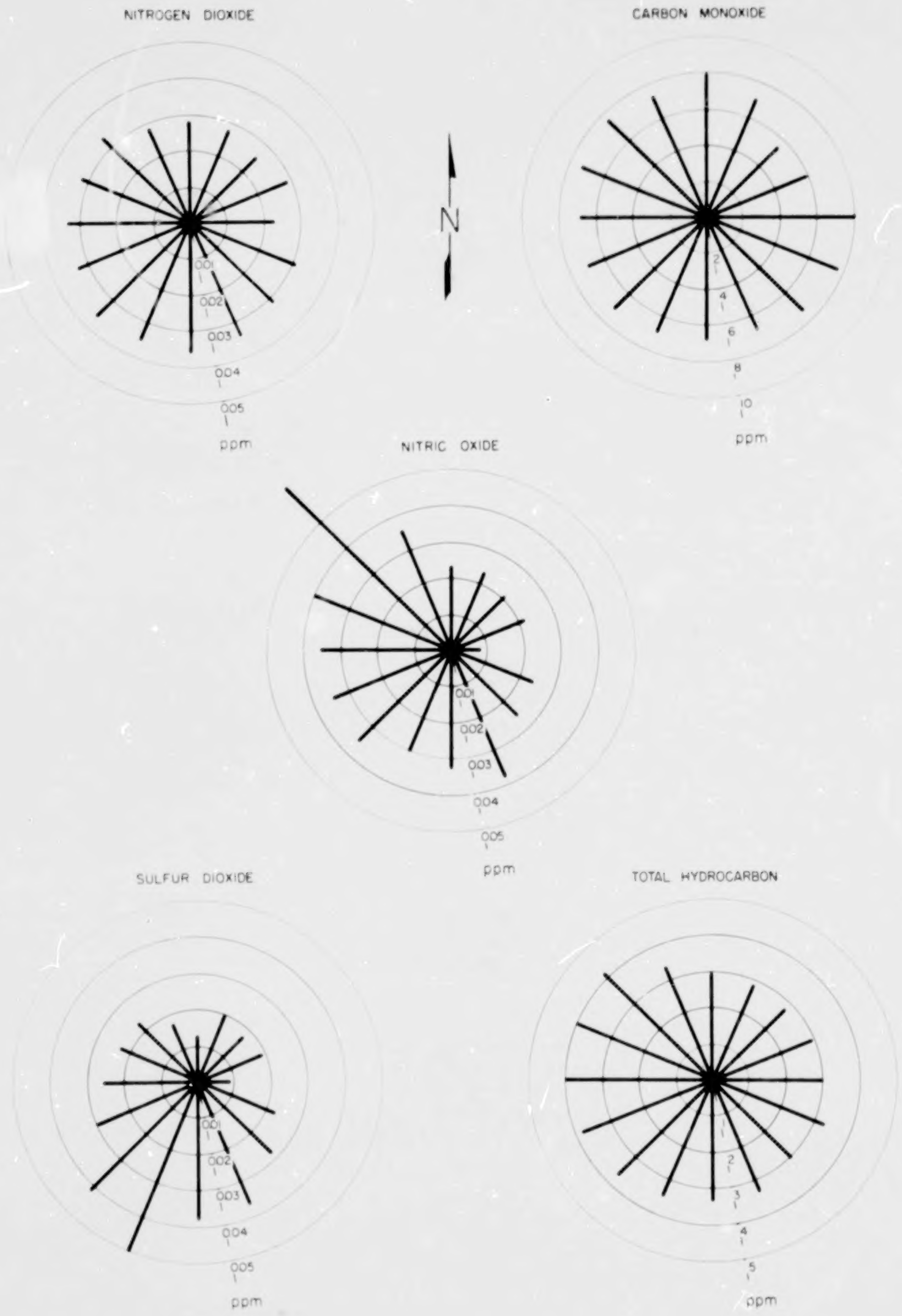

Figure 2-4. Mean Pollutant Levels Versus Wind Direction, December 1962 - November 1963.

BEHAVIOR OF INDIVIDUAL POLLUTANTS

This section presents more detailed extensions of the several analyses of the data in an attempt to provide additional insight into behavior of pollutants, and to identify and partially quantitate the various factors contributing to variations of pollutant concentrations.

Sulfur Dioxide

Pollution of the air by sulfur dioxide in Cincinnati results almost exclusively from fuel combustion for space heating and industrial processes. The dependence of atmospheric sulfur dioxide concentrations on space heating demand is demonstrated graphically in Figure 2-5.* The concentrations recorded during the summer months (approximately 0.01 ppm during 1962 and 1963) represent the relatively constant contribution of fuel combustion and power generation for industrial processes.

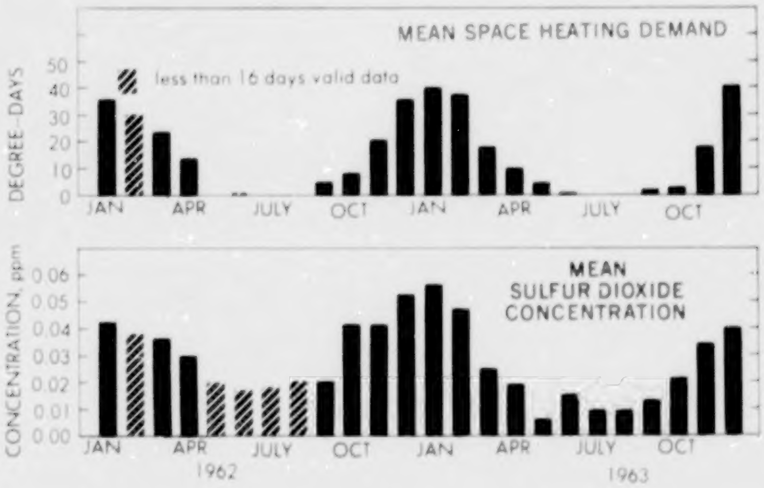

Figure 2-5. Monthly Mean Sulfur Dioxide Concentrations and Degree-Days.

Figure 2-5 indicates some inconsistencies between the recorded sulfur dioxide levels and those that would have been anticipated on the basis of heating demand and industrial usage of fuel. One such inconsistency is the sulfur dioxide levels during October and November 1962, which were nearly the same despite a two-fold difference in heating demand. These inconsistencies were largely due to the effect of the varying dilution capacity of the atmosphere, a factor that cannot be thoroughly quantitated with presently available information.

Figure 2-6 presents the average diurnal patterns of sulfur dioxide levels by month for the years 1962 and 1963. These patterns also illustrate the combination of the varying effects of atmospheric dilution and source strength. The morning peak levels exhibited significant variability in time of occurrence. Since Cincinnati does not observe Daylight Savings Time in the summer, morning peaks

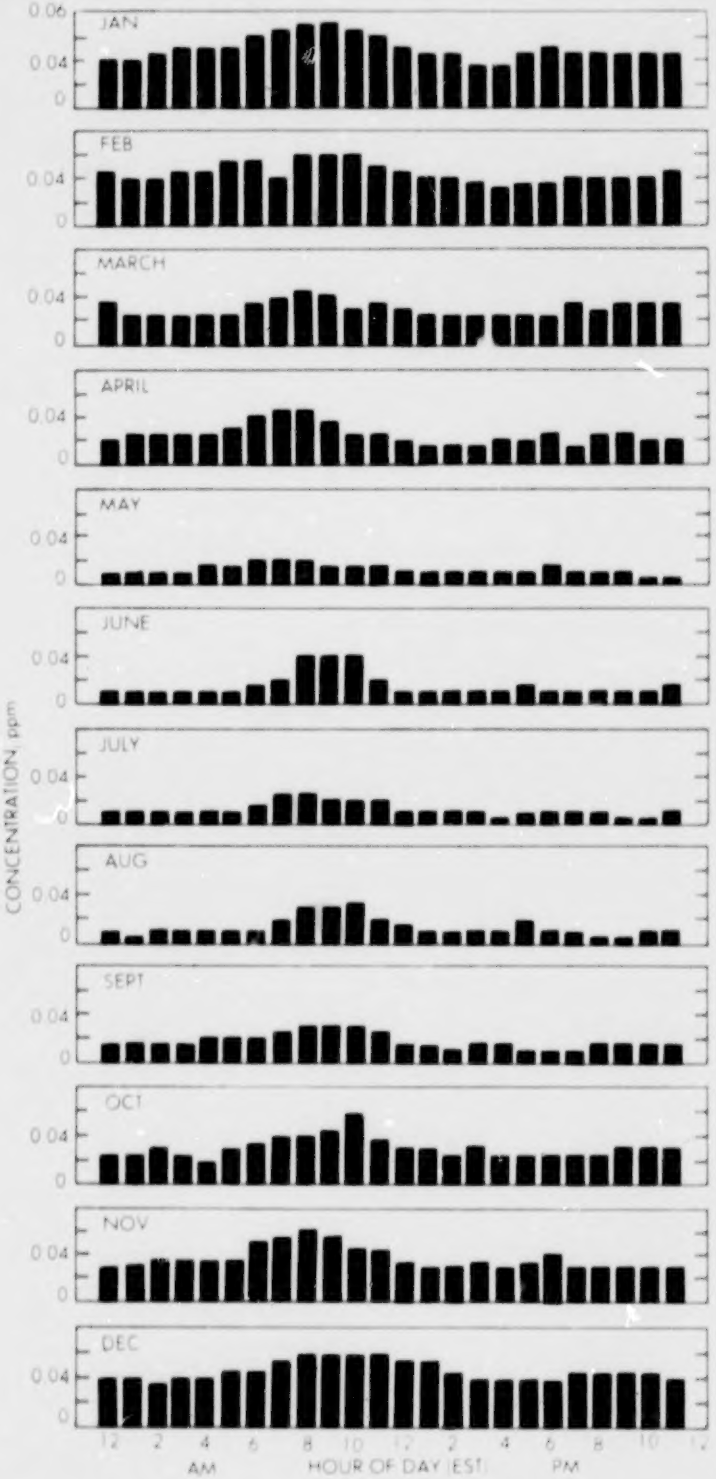

Figure 2-6. Diurnal Patterns of Sulfur Dioxide Concentrations.

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*The dashed bars in the sulfur dioxide graph represent "invalid data months"; the monthly mean degree-day values exclude the values for those days that were "invalid data days" with respect to the sulfur dioxide data (see Part 3).

due entirely to source strength increases would not be expected to vary seasonally. Thus at least a portion of the peak levels was due to fumigation. The time of occurrence of the morning peaks did, in fact, roughly follow the pattern suggested by seasonal changes in atmospheric dilution factors. During the spring months, the peak levels shift, with the sunrise, to an earlier hour; in the summer and fall, as the dilution capacity decreases and persistent inversions occur more frequently, the time of occurrence becomes progressively later again.

The fumigation peaks in the summer months were not preceded by any obvious nocturnal accumulations. This apparently indicates that industrial emissions from elevated stacks, which would predominate during the summer, can accumulate aloft until morning without being recorded at the ground-level station. In winter, when low-level residential and commercial sources contribute significantly to sulfur dioxide pollution, increased levels in the early evening were frequently recorded.

Frequency distributions of the concentrations of sulfur dioxide are presented in Table 2-4.* During 1962 and 1963 the concentration of sulfur dioxide exceeded 0.1 ppm about 5 percent of the time. The difference between summer and winter levels of this pollutant was quite apparent (Figure 2.7). During the summer the level of sulfur dioxide rarely exceeded 0.1 ppm (less than 2 percent of the data); however, this level was exceeded by about 10 percent of the data during winter.

TABLE 2-4
FREQUENCY DISTRIBUTION OF SULFUR DIOXIDE CONCENTRATIONS
Cincinnati, 1962-1963

	AVG'G TIME	PERCENT OF DATA VALID	CONCENTRATION, parts per million											
				FREQUENCY DISTRIBUTION, percent										
			MIN	10	30	50	70	90	92	94	96	98	MAX	ARITH MEAN
JAN 1962	5 MIN	88.5	.00	.01	.02	.03	.05	.08	.09	.10	.12	.15	.84	.045
FEB 1962		33.1	.00	.00	.02	.03	.04	.08	.09	.10	.11	.14	.40	.040
MAR 1962		75.5	.00	.00	.02	.03	.04	.06	.06	.07	.08	.12	.52	.035
APR 1962		91.8	.00	.00	.01	.02	.03	.06	.07	.08	.10	.12	.26	.030
MAY 1962		61.2	.00	.00	.01	.01	.02	.05	.05	.06	.07	.10	.33	.020
JUN 1962		61.9	.00	.00	.00	.01	.02	.04	.05	.06	.07	.12	.36	.015
JUL 1962		43.4	.00	.00	.00	.01	.02	.04	.05	.07	.09	.12	.55	.020
AUG 1962		55.6	.00	.00	.01	.01	.02	.05	.05	.06	.08	.12	.45	.020
SEP 1962		72.2	.00	.00	.01	.01	.02	.04	.04	.05	.07	.10	.43	.020
OCT 1962		89.6	.00	.00	.02	.03	.06	.09	.09	.10	.11	.14	.35	.040
NOV 1962		98.4	.00	.01	.02	.03	.04	.08	.09	.10	.11	.14	.68	.040
DEC 1962		98.6	.00	.02	.03	.04	.06	.10	.10	.11	.13	.16	.52	.050
YEAR 1962	5 MIN	72.7	.00	.00	.01	.02	.04	.07	.08	.09	.10	.14	.84	.035
	30 MIN		.00	.00	.01	.03	.04	.07	.08	.09	.10	.13	.50	
	1 HR		.00	.00	.01	.03	.04	.07	.08	.09	.10	.12	.46	
	24 HR		.01	.01	.02	.03	.04	.07	.07	.07	.08	.09	.11	
JAN 1963	5 MIN	98.3	.00	.02	.03	.04	.06	.11	.12	.13	.16	.21	.68	.055
FEB 1963		98.7	.00	.02	.03	.04	.05	.09	.10	.10	.12	.15	.32	.045
MAR 1963		98.4	.00	.00	.01	.02	.03	.06	.07	.08	.09	.11	.43	.025
APR 1963		94.7	.00	.00	.01	.01	.02	.04	.05	.06	.07	.09	.60	.020
MAY 1963		59.3	.00	.00	.00	.01	.01	.01	.02	.03	.05	.08	.38	.005
JUN 1963		86.8	.00	.00	.00	.01	.02	.04	.05	.05	.07	.11	.67	.015
JUL 1963		92.2	.00	.00	.00	.01	.01	.03	.03	.04	.06	.09	.50	.010
AUG 1963		89.4	.00	.00	.00	.01	.01	.02	.03	.03	.05	.07	.99	.010
SEP 1963		91.2	.00	.00	.00	.01	.01	.04	.04	.05	.06	.08	.33	.015
OCT 1963		90.0	.00	.00	.00	.01	.02	.05	.06	.07	.08	.12	.82	.020
NOV 1963		98.4	.00	.00	.01	.02	.03	.07	.08	.10	.12	.18	.55	.035
DEC 1963		94.2	.00	.01	.02	.03	.05	.08	.09	.09	.11	.12	.28	.040
YEAR 1963	5 MIN	90.9	.00	.00	.01	.01	.03	.06	.07	.08	.10	.13	.99	.025
	30 MIN		.00	.00	.01	.02	.03	.06	.07	.08	.10	.13	.62	
	1 HR		.00	.00	.01	.02	.03	.06	.07	.08	.09	.12	.48	
	24 HR		.00	.00	.01	.02	.03	.06	.06	.07	.07	.09	.11	
TWO YEARS 1962-1963	5 MIN	81.8	.00	.00	.01	.02	.03	.07	.08	.09	.10	.13	.99	.030
	30 MIN		.00	.00	.01	.02	.03	.07	.08	.09	.10	.13	.62	
	1 HR		.00	.00	.01	.02	.03	.07	.08	.09	.10	.12	.48	
	24 HR		.00	.00	.02	.02	.04	.06	.07	.07	.08	.09	.11	
SPRING 62	5 MIN	76.0	.00	.00	.01	.02	.03	.06	.06	.07	.09	.11	.52	.030
SUMMER 62		53.5	.00	.00	.00	.01	.02	.04	.05	.06	.08	.12	.55	.020
FALL 1962		86.8	.00	.00	.02	.03	.04	.08	.08	.09	.11	.13	.68	.035
WINTER 62-63		98.5	.00	.02	.03	.04	.06	.10	.10	.12	.14	.17	.68	.050
SPRING 63		84.0	.00	.00	.00	.01	.02	.05	.05	.06	.08	.10	.60	.015
SUMMER 63		89.5	.00	.00	.00	.01	.01	.03	.03	.04	.06	.09	.99	.010
FALL 1963		93.2	.00	.00	.01	.01	.02	.05	.06	.07	.09	.13	.82	.025

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*The interpretation of frequency distribution analyses and their application to CAMP data are discussed in Appendix A.

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Also included in Table 2-4 are distributions of sulfur dioxide concentrations for averaging times longer than 5 minutes. Little difference is noted among these distributions except for the various maxima. The peak 5-minute value for the 2 years was 0.99 ppm, about twice the peak hourly average of 0.48 ppm and about ten times the maximum daily average of 0.11 ppm.

The occurrence of the maximum sulfur dioxide concentrations was unusual and worthy of note; the 5-, 10-, and 30-minute maxima were all set during a brief period of extremely high pollution on August 22, 1963, during a period of generally quite low levels (see Table 3-21). The explanation lies in a shift of the previously northwest wind to a direction from the downtown power plant toward the CAMP station. Figure 2-8 presents in greater detail the sulfur dioxide concentrations and wind directions on the morning of August 22, 1963.

The hourly mean concentrations in Tables 3-2 through 3-25 also indicate several other occasions on which sulfur dioxide concentrations rose sharply for various periods of time. A dosage* analysis was made on the 5-minute data to document such occurrences. Table 2-5 summarizes, by month, the frequency and duration of occasions when sulfur dioxide levels reached or exceeded the 98th percentile concentration of the 2-year cumulative frequency distribution (0.13 ppm); such sulfur dioxide dosage events occurred on over 1000 separate occasions during the 2-year period. During 86 percent of these events the levels remained high for less than 30 minutes. On two occasions the period of high levels was longer than 4 hours.

These two events, one during the late morning of December 3, 1962, and the other during the early morning of January 10, 1963, accounted for 5 percent of the total dosage and 4 percent of the total time represented by the dosage events tabulated in Table 2-5. In contrast, while the 860 short-duration events accounted for only 10 percent of the total dosage, they represented about 60 percent of the total time.

About half of the events lasting 30 minutes or longer occurred during the winter months, only about one-tenth in summer.† Thus the analysis indicates not only that most of the dosage occurred during a relatively few long events, but also that the frequency of occurrence of these longer events tends to follow the seasonal pattern of sulfur dioxide levels in general.

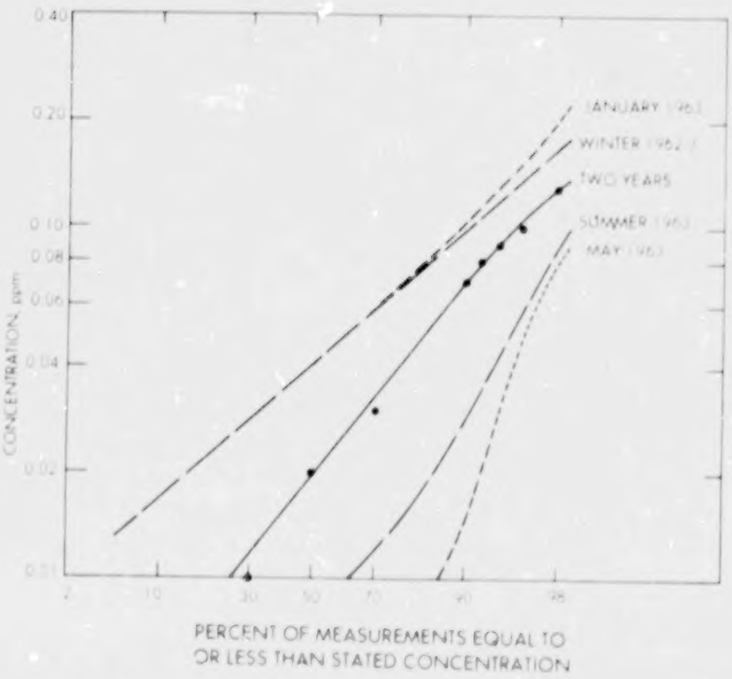

Figure 2-7. Frequency Distributions of Sulfur Dioxide Concentrations.

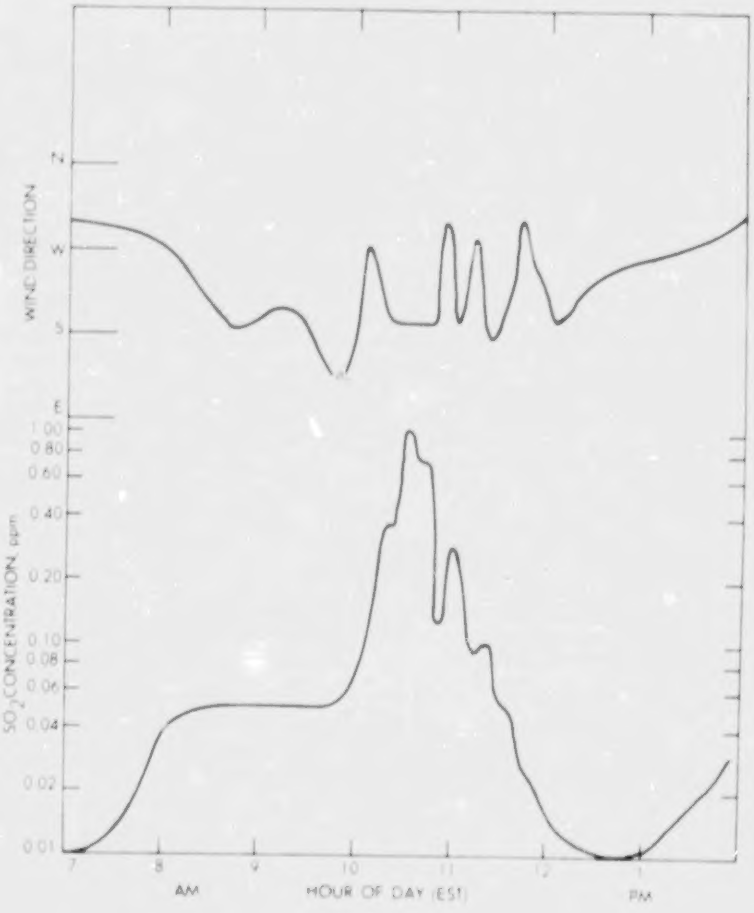

Figure 2-8. Sulfur Dioxide Concentration and Wind Direction on August 22, 1963.

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*A contrived time-concentration value giving emphasis to higher concentrations (see Appendix A); since this concept is still in the developmental stages as an index of pollutant exposure, the analysis is used herein only to search for the highest pollutant levels.

† Among these latter was the event that included the August 22 maximum for the 2 years, which appears as one of the four events lasting ½ to 4 hours during August 1963.

TABLE 2-5
OCCURRENCES OF SULFUR DIOXIDE LEVELS 0.13 ppm OR GREATER

	1962				1963				
	< 30 min	½-4 hr	> 4 hr	Total	< 30 min	½-4 hr	> 4 hr	Total	1962-1963
Jan	68	9	0	77	66	26	1	93	170
Feb	23	2	0	25	47	13	0	60	85
Mar	36	4	0	40	29	3	0	32	72
Apr	44	4	0	48	23	2	0	25	73
May	32	2	0	34	18	1	0	19	53
June	42	2	0	44	27	3	0	30	74
July	28	1	0	29	29	3	0	32	61
Aug	24	3	0	27	22	4	0	26	53
Sept	24	3	0	27	17	3	0	20	47
Oct	55	8	0	63	17	9	0	26	89
Nov	60	8	0	68	37	13	0	50	118
Dec	60	13	1	74	32	8	0	40	114
Total	496	59	1	556	364	88	1	453	1009
				1962-1963	860	147	2	1009	

Oxides of Nitrogen

Nitric oxide and nitrogen dioxide are produced by any high-temperature combustion process using air as an oxygen source. In Cincinnati such combustion utilizes primarily gasoline and fuel oil. The gasoline consumption rate is relatively constant throughout the year, while usage of fuel oil and coal follows a seasonal pattern.

Levels of the oxides of nitrogen are also influenced by the atmospheric conversion of nitric oxide to nitrogen dioxide. The rate of this conversion is in turn affected by the intensity of solar radiation just as it affects the production of photochemical smog.

If it were not for this photochemical conversion, both oxides of nitrogen would be expected to have shown a seasonal variation pattern similar to that of sulfur dioxide, following the increased fuel usage for space heating in the winter. Instead, nitrogen dioxide levels exhibited essentially no seasonal pattern, while nitric oxide showed a pattern more accentuated than was expected (Figure 2-9). This is the result of high rate of conversion of NO to NO_2 in the summer, which subtracts from the already low nitric oxide levels and adds to the minimum levels of nitrogen dioxide. The seasonal pattern of nitric oxide was further accentuated by very high levels during periods of poor atmospheric dilution, particularly in November 1962 and October 1963.

Nitric oxide concentrations also exhibited pronounced diurnal variability (Figure 2-10), reflecting the same three factors that contributed to the seasonal pattern. The rate of conversion to nitrogen dioxide, the dilution capacity of the atmosphere, and the strength of combustion sources, all influenced by daily sunlight patterns, combined to produce three consistent features in all the monthly patterns.

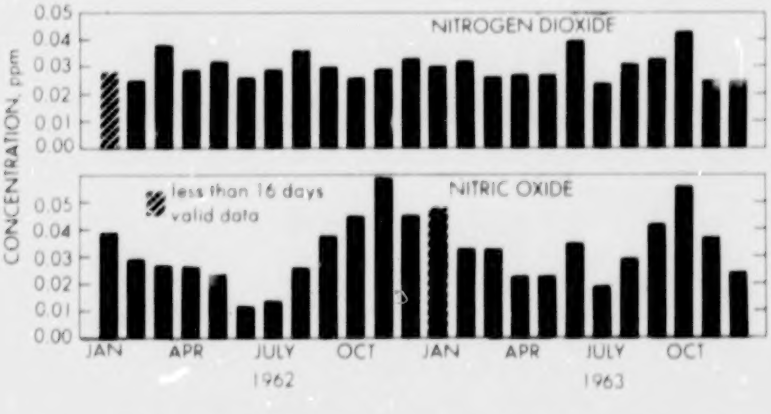

Figure 2-9. Monthly Mean Oxides of Nitrogen Concentrations.

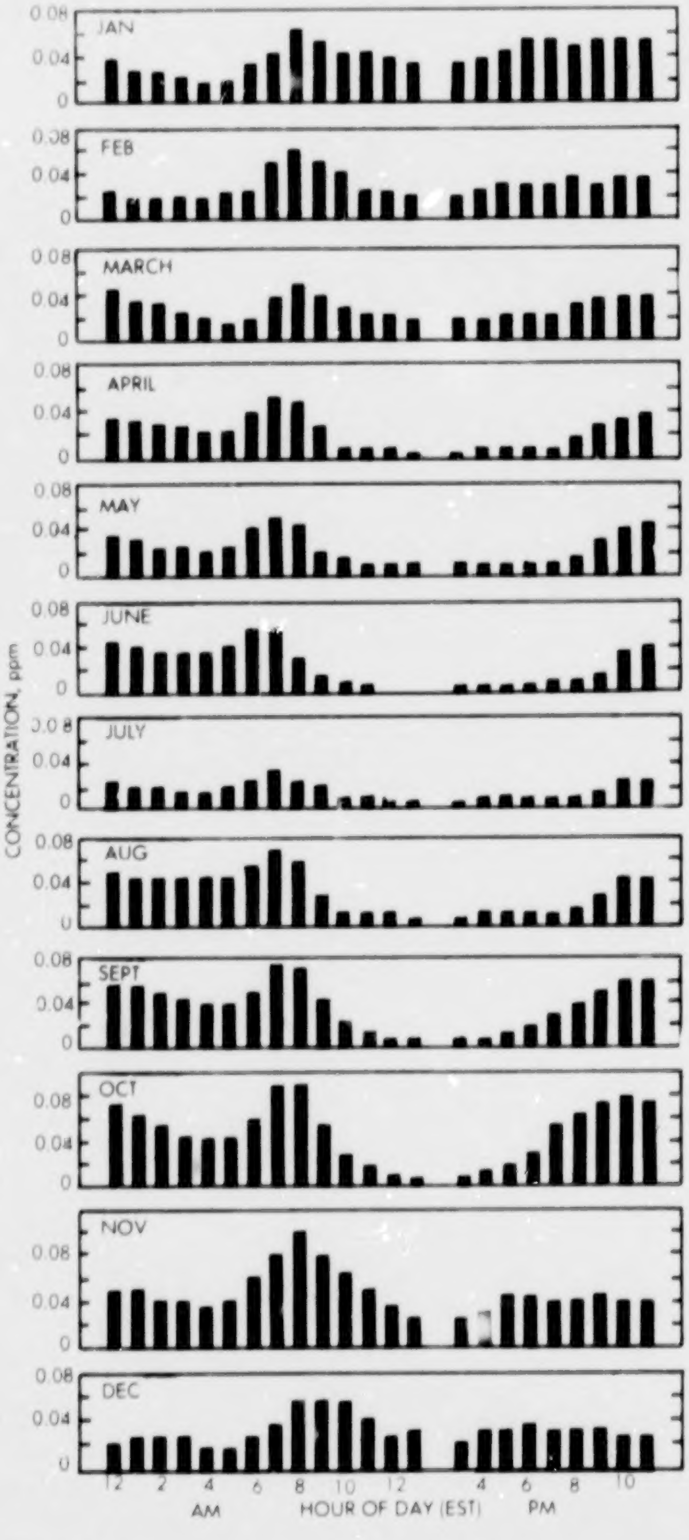

Figure 2-10. Diurnal Patterns of Nitric Oxide Concentrations.

The minima during the afternoon (like the low summer levels) are attributable to maximum conversion to nitrogen dioxide, enhanced atmospheric dilution potential, and minimum emissions from combustion.* These minima accordingly varied with the seasons from near-zero in the summer to 0.035 ppm during December and January.

The high overnight concentrations of nitric oxide are due to the reversal of these three factors (conversion rate, dilution capacity, and source strength) in the absence of solar radiation. During late fall and winter the levels began to increase in late afternoon, reached a maximum by 6 p.m., remained fairly constant until midnight, and then declined. The nocturnal peaks shifted seasonally to a later hour and a higher concentration with changes in source strength and atmospheric dilution capacity. After the nocturnal maxima were reached, the pollutant levels usually declined, with decreased human activity, until influenced by the factors causing the third effect -- the sharp morning peaks.

These morning peaks were the result of the beginning of daily activities and of fumigation with pollutants accumulated overnight in low-level inversions; peak concentrations varied from 0.03 to 0.10 ppm. The time of occurrence varied seasonally, from 6 to 7 a.m. in the summer to 9 a.m. in the winter, reflecting the varying persistence of the nocturnal inversions.

The diurnal patterns of variation in nitrogen dioxide levels (Figure 2-11) are similar to, but not nearly so pronounced as, those of nitric oxide, because of the conversion effect. From November through February, the nitrogen dioxide levels are nearly constant throughout the day. A definite morning peak (8 to 9 a.m.) and an evening accumulation occur from May through October. The morning peaks of nitrogen dioxide occured 1 to 2 hours later than the peaks of nitric oxide, presumably because of the time required to effect the conversion triggered by sunlight.

Frequency distributions of the oxides of nitrogen are presented in Tables 2-6 and 2-7 and are compared graphically in Figure 2-12. The two sets of curves differ in two respects; the greater seasonal differences in nitric oxide levels spaces the curves farther apart than those of nitrogen dioxide, and the greater variability of nitric oxide levels, both diurnal and seasonal, also makes its set of curves far steeper than those for nitrogen dioxide.

Monthly summaries of dosage events, analogous to that presented for sulfur dioxide, are given in Tables 2-8 and 2-9. The occurrence of the highest 2 percent of the values was concentrated in far fewer individual events than was the case for sulfur dioxide. This reflects the longer integrating time of the oxides of nitrogen instruments, which smooths out the shortest peaks. It may also reflect the fact that while sulfur dioxide tends to come from large single sources, the sources of oxides of nitrogen are more dispersed and thus less apt to produce discrete times of high levels.

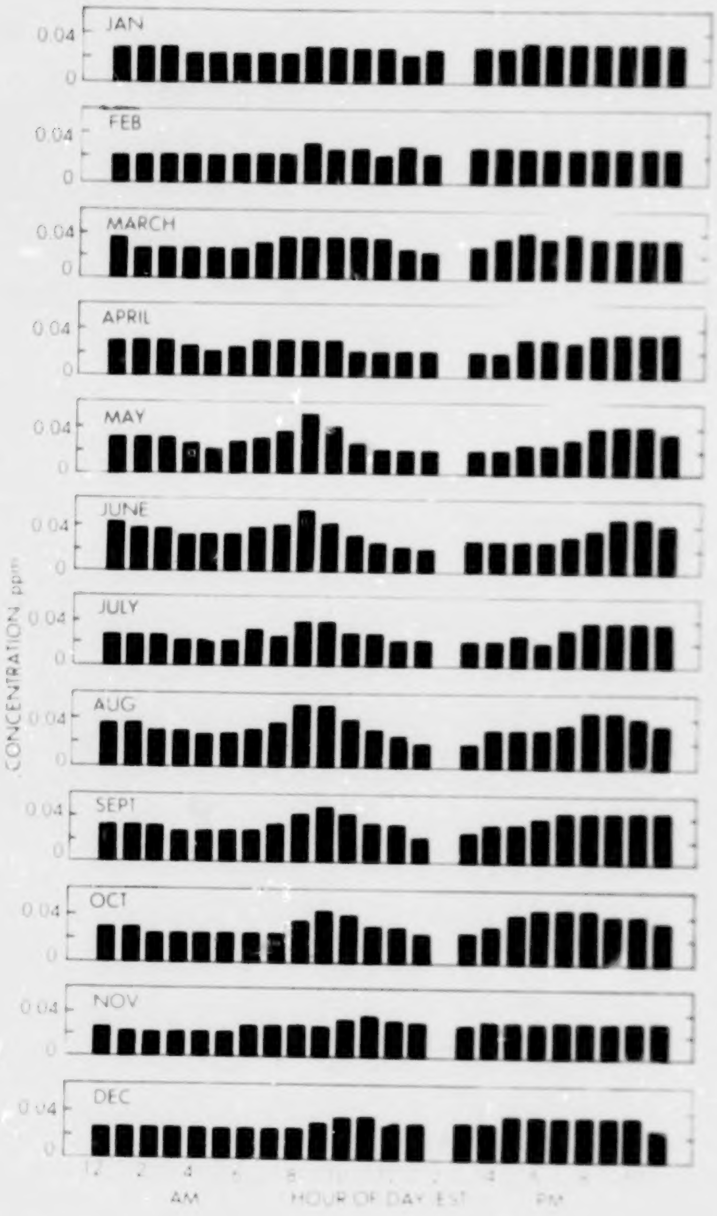

Figure 2-11. Diurnal Patterns of Nitrogen Dioxide Concentrations

The monthly distributions of events for both oxides of nitrogen roughly followed an expected pattern. The greatest numbers of nitric oxide events occurred in the autumn months, with poorest dilution, and the least occurred in the summer months, when conversion to nitrogen dioxide was greatest. Nitrogen dioxide events were also more frequent during the autumn; however, the comparison with summer and spring was not so striking, apparently because of the increased nitrogen dioxide levels caused by the conversion. Thus during 1962 and 1963 long events of nitrogen

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*The lack of data from 2 to 3 p.m. in Figures 2-10 and 2-11 is due to the daily zero check performed on the nitrogen oxides instruments.

TABLE 2-6
FREQUENCY DISTRIBUTIONS OF NITRIC OXIDE CONCENTRATIONS
Cincinnati, 1962-1963

			CONCENTRATION, parts per million												
				FREQUENCY DISTRIBUTION, percent											
	AVG'G TIME	PERCENT OF DATA VALID	MIN	10	30	50	70	90	92	94	96	98	MAX	ARITH MEAN
JAN 1962	5 MIN	63.6	.00	.00	.02	.03	.05	.07	.08	.09	.10	.16	.42	.040
FEB 1962		88.9	.00	.00	[illegible]	.02	.03	.06	.06	.07	.09	.16	.46	.030
MAR 1962		86.3	.00	.00	.01	.02	.03	.06	.06	.07	.08	.11	.26	.025
APR 1962		58.8	.00	.00	.01	.01	.03	.08	.09	.11	.13	.16	.32	.025
MAY 1962		68.6	.00	.00	.00	.01	.02	.05	.06	.08	.10	.13	.28	.025
JUNE 1962		85.7	.00	.00	.00	.01	.01	.04	.04	.05	.07	.09	.14	.010
JUL 1962		60.9	.00	.00	.00	.01	.01	.03	.04	.05	.06	.07	.19	.015
AUG 1962		91.5	.00	.00	.00	.01	.02	.08	.10	.11	.13	.16	.23	.025
SEP 1962		74.9	.00	.00	.01	.02	.03	.12	.13	.15	.17	.21	.33	.040
OCT 1962		87.1	.00	.00	.01	.03	.05	.12	.13	.15	.17	.20	.34	.045
NOV 1962		71.6	.00	.01	.02	.04	.06	.12	.14	.17	.21	.27	.60	.060
DEC 1962		69.2	.00	.00	.02	.03	.04	.11	.13	.15	.17	.24	.42	.045
YEAR 1962	5 MIN	75.5	.00	.00	.01	.02	.03	.08	.09	.11	.13	.18	.60	.030
	30 MIN		.00	.00	.01	.02	.03	.08	.09	.11	.13	.18	.60	
	1 HR		.00	.00	.01	.02	.03	.08	.09	.11	.13	.18	.58	
	24 HR		.00	.00	.02	.02	.04	07	.08	.09	.10	.11	.29	
JAN 1963	5 MIN	26.1	.00	.01	.02	.04	.05	.09	.10	.11	.13	.16	.28	.050
FEB 1963		64.9	.00	.00	.01	.02	.03	.06	.07	.08	.12	.17	.40	.035
MAR 1963		82.0	.00	.00	.01	.02	.03	.08	.09	.12	.15	.20	.38	.035
APR 1963		87.6	.00	.00	.00	.01	.02	.06	.09	.11	.14	.17	.26	.025
MAY 1963		91.9	.00	.00	.00	.01	.02	.07	.08	.10	.12	.14	.27	.025
JUN 1963		76.2	.00	.00	.01	.01	.03	.10	.12	.14	.16	.18	.26	.035
JUL 1963		75.7	.00	.00	.00	.01	.02	.04	.05	.06	.07	.09	.18	.020
AUG 1963		75.1	.00	.00	.00	.01	.02	.08	.10	.12	.13	.15	.28	.030
SEP 1963		61.7	.00	.00	.01	.02	.05	.10	.11	.13	.16	.19	.25	.040
OCT 1963		70.2	.00	.00	.01	.03	.07	.14	.15	.16	.18	.22	.54	.055
NOV 1963		81.7	.00	.00	.02	.03	.04	.08	.09	.10	.11	.13	.28	.035
DEC 1963		81.7	.00	.00	.01	.02	.03	.05	.06	.06	.08	.11	.21	.025
YEAR 1963	5 MIN	72.9	.00	.00	.01	.02	.03	.08	.10	.11	.13	.17	.54	.030
	30 MIN		.00	.00	.01	.02	.03	.08	.10	.11	.13	.17	.52	
	1 HR		.00	.00	.01	.02	.03	.08	.10	.11	.13	.16	.50	
	24 HR		.00	.00	.02	.02	.04	.06	.07	.08	.10	.12	.14	
TWO YEARS 1962-1963	5 MIN	74.2	.00	.00	.01	.02	.03	.08	.09	.11	.13	.17	.60	.030
	30 MIN		.00	.00	.01	.02	.03	.08	.09	.11	.13	.17	.60	
	1 HR		.00	.00	.01	.02	.03	.08	.09	.11	.13	.17	.58	
	24 HR		.00	.00	.02	.02	.04	.06	.07	.09	.09	.11	.29	
SPRING 62	5 MIN	71.3	.00	.00	.01	.02	.03	.06	.07	.08	.10	.13	.32	.025
SUMMER 62		79.3	.00	.00	.00	.01	.01	.05	.06	.08	.10	.12	.23	.015
FALL 1962		78.0	.00	.00	.01	.03	.05	.12	.13	.15	.18	.22	.60	.045
WINTER 62-63		53.0	.00	.00	.01	.03	.04	.09	.10	.12	.15	.21	.42	.040
SPRING 63		87.2	.00	.00	.01	.01	.02	.07	.09	.11	.13	.17	.38	.025
SUMMER 63		75.7	.00	.00	.01	.01	.02	.08	.09	.11	.13	.16	.28	.030
FALL 1963		71.2	.00	.00	.02	.03	.05	.11	.12	.14	.16	.19	.54	.045

TABLE 2-7
FREQUENCY DISTRIBUTIONS OF NITROGEN DIOXIDE CONCENTRATIONS
Cincinnati, 1962-1963

			CONCENTRATION, parts per million											
				FREQUENCY DISTRIBUTION, percent										
	AVG'G TIME	PERCENT OF DATA VALID	MIN	10	30	50	70	90	92	94	96	98	MAX	ARITH MEAN
JAN 1962	5 MIN	54.0	.00	.00	.02	.03	.04	.05	.05	.06	.06	.07	.10	.030
FEB 1962		80.8	.00	.01	.02	.03	.03	.04	.04	.04	.05	.05	.16	.025
MAR 1962		90.3	.00	.02	.03	.04	.04	.06	.06	.06	.06	.07	.11	.040
APR 1962		74.7	.00	.01	.02	.03	.04	.05	.05	.06	.06	.06	.09	.030
MAY 1962		80.3	.00	.00	.02	.03	.04	.06	.06	.07	.07	.09	.26	.030
JUN 1962		85.1	.00	.00	.02	.02	.03	.05	.05	.05	.06	.07	.14	.025
JUL 1962		70.0	.00	.01	.02	.03	.03	.05	.05	.05	.06	.06	.13	.030
AUG 1962		81.0	.00	.02	.02	.03	.04	.06	.07	.07	.08	.10	.20	.035
SEP 1962		82.8	.00	.01	.02	.03	.04	.05	.05	.06	.06	.06	.14	.030
OCT 1962		88.6	.00	.00	.02	.02	.03	.04	.05	.05	.06	.07	.15	.025
NOV 1962		81.0	.00	.02	.02	.03	.03	.04	.04	.05	.05	.06	.25	.030
DEC 1962		59.2	.00	.01	.02	.03	.04	.06	.07	.08	.09	.11	.30	.035
YEAR 1962	5 MIN	77.2	.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.30	.030
	30 MIN		.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.28	
	1 HR		.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.25	
	24 HR		.00	.02	.02	.03	.04	.04	.05	.05	.05	.06	.09	
JAN 1963	5 MIN	66.2	.00	.02	.02	.03	.03	.05	.05	.05	.06	.06	.09	.030
FEB 1963		83.8	.00	.02	.02	.03	.04	.05	.05	.05	.06	.07	.21	.030
MAR 1963		86.2	.00	.00	.02	.02	.03	.04	.04	.04	.05	.06	.11	.025
APR 1963		88.0	.00	.01	.02	.02	.03	.05	.05	.05	.05	.06	.11	.025
MAY 1963		67.4	.00	.01	.02	.03	.03	.05	.05	.05	.06	.06	.08	.025
JUN 1963		79.0	.00	.02	.03	.04	.05	.06	.07	.07	.08	.09	.23	.040
JUL 1963		71.2	.00	.00	.02	.02	.03	.04	.05	.05	.05	.06	.12	.025
AUG 1963		77.8	.00	.02	.02	.03	.03	.05	.05	.05	.06	.08	.18	.030
SEP 1963		83.7	.00	.02	.02	.03	.04	.06	.06	.07	.07	.09	.17	.035
OCT 1963		86.8	.00	.02	.03	.04	.05	.07	.07	.08	.09	.10	.17	.045
NOV 1963		82.3	.00	.01	.02	.02	.03	.04	.04	.04	.04	.05	.08	.025
DEC 1963		85.5	.00	.02	.02	.02	.03	.04	.04	.04	.04	.05	.07	.025
YEAR 1963	5 MIN	79.8	.00	.01	.02	.03	.03	.05	.05	.06	.06	.07	.23	.030
	30 MIN		.00	.01	.02	.03	.03	.05	.05	.06	.06	.07	.21	
	1 HR		.00	.01	.02	.03	.03	.05	.05	.06	.06	.07	.20	
	24 HR		.01	.02	.02	.03	.03	.05	.05	.05	.06	.06	.08	
TWO YEARS 1962-1963	5 MIN	78.5	.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.30	.030
	30 MIN		.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.28	
	1 HR		.00	.01	.02	.03	.04	.05	.05	.06	.06	.07	.25	
	24 HR		.00	.02	.02	.03	.04	.05	.05	.05	.05	.06	.09	
SPRING 62	5 MIN	81.9	.00	.01	.02	.03	.04	.05	.06	.06	.06	.07	.26	.035
SUMMER 62		78.6	.00	.01	.02	.03	.04	.05	.06	.06	.07	.08	.20	.030
FALL 1962		84.2	.00	.01	.02	.03	.03	.05	.05	.05	.06	.06	.25	.030
WINTER 62-63		69.3	.00	.02	.02	.03	.04	.05	.05	.06	.07	.08	.30	.030
SPRING 63		80.4	.00	.01	.02	.02	.03	.04	.05	.05	.05	.06	.11	.025
SUMMER 63		76.0	.00	.01	.02	.03	.04	.05	.06	.06	.07	.08	.23	.030
FALL 1963		84.6	.00	.02	.02	.03	.04	.06	.06	.07	.08	.09	.17	.035

TABLE 2-8
OCCURRENCES OF NITRIC OXIDE
LEVELS 0.17 ppm OR GREATER
Monthly Summary

	1962				1963				
	$<$ 30 min	$\frac{1}{2}$-4 hr	$>$ 4 hr	Total	$<$ 30 min	$\frac{1}{2}$ 4 hr	$>$ 4 hr	Total	1962
Jan	1	4	1	5	3	1	0	4	9
Feb	3	2	1	6	0	1	1	2	8
Mar	2	1	0	3	6	8	1	15	18
Apr	7	5	0	12	4	8	0	12	24
May	0	1	0	1	3	4	0	7	8
June	0	0	0	0	10	9	0	19	19
July	1	0	0	1	2	0	0	2	3
Aug	6	7	0	13	1	4	0	5	18
Sept	17	10	2	29	2	6	1	9	38
Oct	19	9	0	28	10	14	1	25	53
Nov	7	17	1	25	3	4	0	7	32
Dec	6	4	2	12	1	2	0	3	15
Total	69	60	7	135	45	61	4	110	245
				1962-1963	114	120	11	245	

TABLE 2-9
OCCURRENCES OF NITROGEN DIOXIDE
LEVELS 0.07 ppm OR GREATER
Monthly Summary

	1962				1963				
	$<$ 30 min	$\frac{1}{2}$ 4 hr	$>$ 4 hr	Total	$<$ 30 min	$\frac{1}{2}$-4 hr	$>$ 4 hr	Total	1962-1963
Jan	1	4	1	6	3	1	1	5	11
Feb	3	0	0	3	6	3	1	10	13
Mar	9	9	1	19	7	3	1	11	30
Apr	16	6	0	22	7	2	1	10	32
May	33	16	1	50	8	1	0	9	59
June	26	9	0	35	42	20	1	63	98
July	21	4	0	25	12	2	0	14	39
Aug	25	24	1	50	3	6	0	9	59
Sept	20	7	0	27	19	12	2	33	60
Oct	36	9	0	45	36	23	8	67	112
Nov	4	1	1	6	5	2	0	7	13
Dec	24	10	4	38	3	1	0	4	42
Total	218	99	9	326	151	76	15	242	568
				1962-1963	369	175	24	568	

dioxide dosage occurred in almost every month of the year, and of nitric oxide dosage in all but the summer months.

Major periods of atmospheric stagnation occurred during November and December 1962 and June and October 1963; the latter two months in particular show a resultant high frequency of dosage events. In general, such periods of poor dilution tend to dominate the upper 2 percent of the data, at least for those pollutants that come largely from diffuse sources.

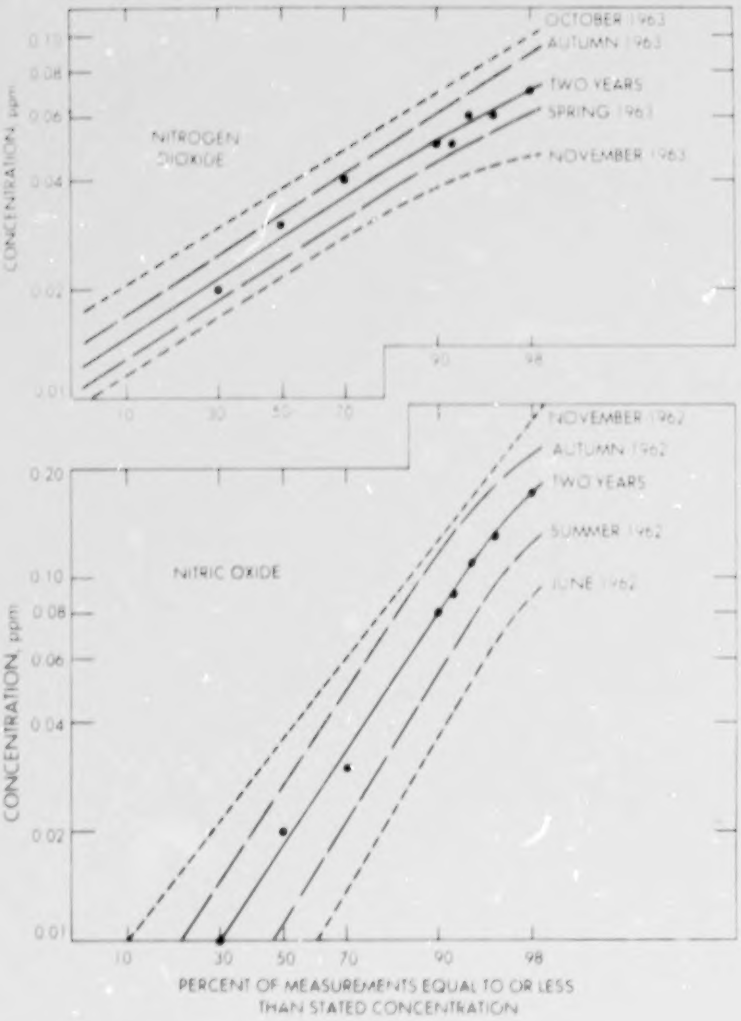

Figure 2-12. Frequency Distributions of Oxides of Nitrogen Concentrations.

Total Oxidant

The recorded concentrations of total oxidant exhibited definite seasonal variation (Figure 2-13). Although oxidant levels would be expected to be somewhat lower in the less sunny months, the near-zero winter levels recorded were influenced to some extent by the high winter concentrations of sulfur dioxide, which acts as a reducing agent and reverses the chemical reaction used as the sensing mechanism for total oxidants.* Figure 2-14 presents recorded traces of oxidant levels from two instruments operating side by side, one with and one without an absorber device to remove sulfur dioxide. The simultaneous trace of sulfur dioxide levels is included; the effect on the recorded oxidant levels is obvious.

Figure 2-15 presents the patterns of diurnal variation recorded for total oxidant. The single bar for 3 to 4 p.m. in the January pattern represents 6 days (out of 24 valid data days) during January 1962 and January 1963 when the hourly

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*For details of the instrumentation see Appendix A.

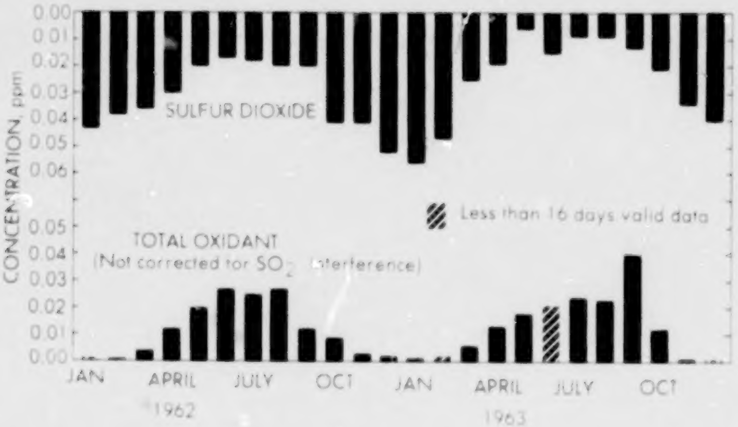

Figure 2-13. Monthly Mean Total Oxidant and Sulfur Dioxide Concentrations.

average oxidant level reached 0.01 ppm, the minimum response of the instrument. In contrast, during January 1964, with the sulfur dioxide interference eliminated by the use of the absorber device, the total oxidant concentration averaged 0.01 ppm for the entire month.

During the warmer months of the year, when oxidants were recorded in significant amounts, there was still pronounced diurnal variability. The formation of oxidants is partly dependent upon the intensity of solar radiation; thus high levels were reached before noon and persisted at a relatively constant level until the late afternoon.

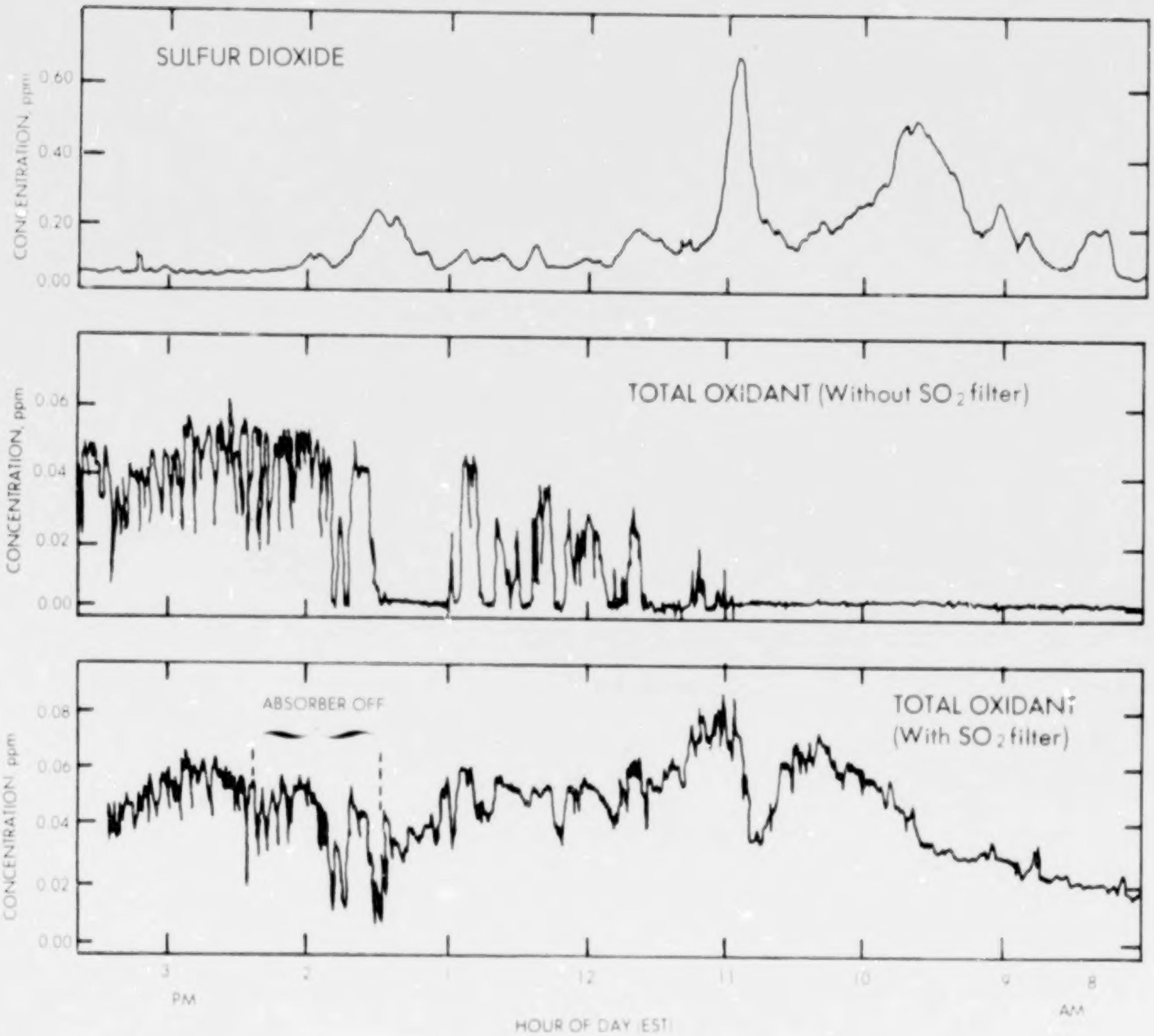

Figure 2-14. Effect of Sulfur Dioxide on Recorded Total Oxidant Measurements.

Because the occurrence of measurable oxidant values, even if not strictly quantitative, carries a certain measure of information, the data have been included in Part 3 of this report; however, much of the analysis performed and reported for other pollutants has been omitted for the oxidant data, or has been restricted to data from the summer months when sulfur dioxide levels were lowest. Oxidant data unaffected by sulfur dioxide have been obtained since early 1964 and will be presented in subsequent reports.

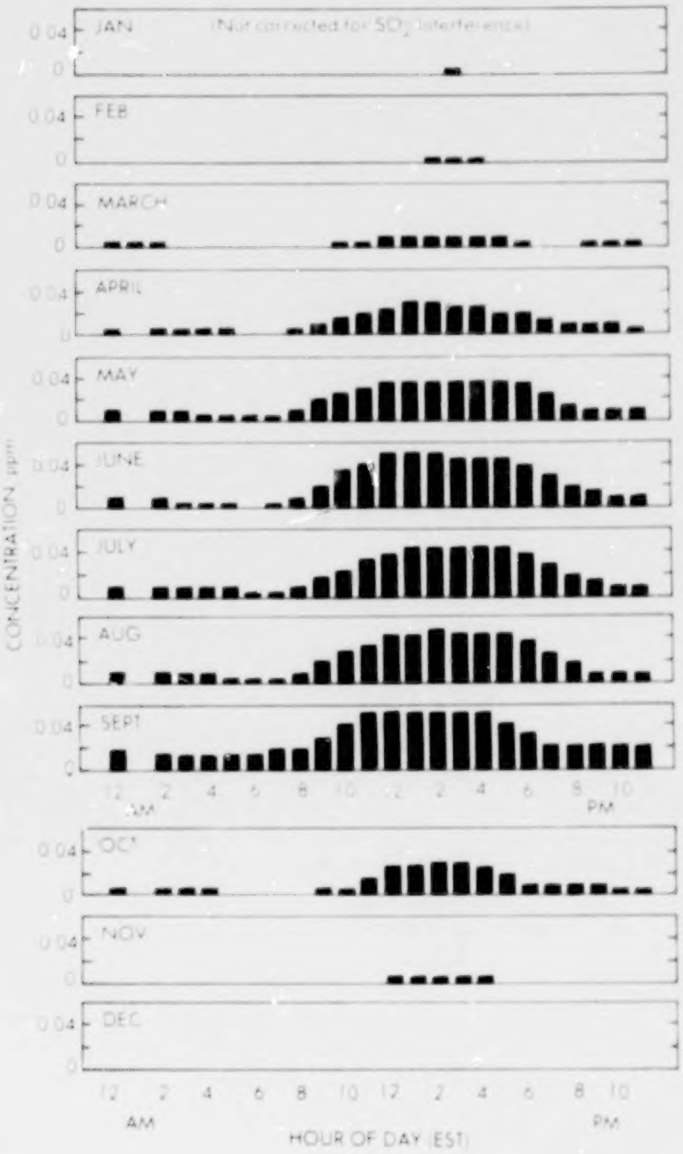

Figure 2-15. Diurnal Patterns of Total Oxidant Concentrations.

Total Hydrocarbon

The mean hydrocarbon concentration (Figure 2-16) generally varied only slightly from month to month, reflecting the predominance of a relatively constant background (resulting from naturally occurring methane and motor vehicle traffic) throughout the year, rather than seasonal combustion sources.* The higher means for December 1962 and October 1963 are caused by a few days of severe atmospheric stagnation, as seen in Tables 3-104 and 3-114.

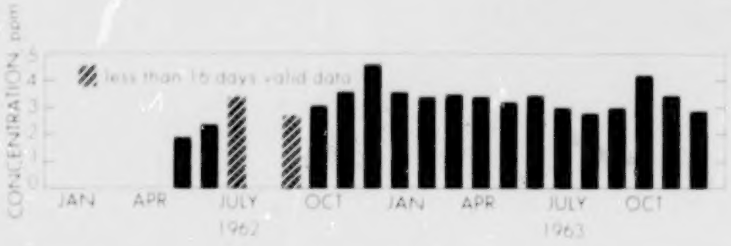

Figure 2-16. Monthly Mean Total Hydrocarbon Concentrations.

Total hydrocarbon levels did not exhibit any striking diurnal variation patterns (Figures 2-17).† The absence of increased levels during peak traffic hours is partially due to the high methane background, but may also reflect the manner in which the instruments are used. CAMP operates the hydrocarbon instruments on a scale of 1-40 ppm to enable them to record the highest peak concentrations. The sensitivity of this scale necessitates recording concentrations of a few ppm to the nearest one ppm, which in turn requires that the atmospheric concentration change by nearly 20 percent to register a change in the reported value.

The high nocturnal and morning levels that are seen in the patterns tended to follow the seasonal pattern of atmospheric dilution conditions. The slightly depressed afternoon troughs probably resulted from increased atmospheric dilution and the photochemical conversion of some hydrocarbons into immeasurable forms; the latter effect is no doubt obscured by the background methane, which does not participate in photochemical reactions.

Frequency distributions of total hydrocarbon concentrations are presented in Table 2-10 and Figure 2-18. The peak 5-minute value was 25 ppm, and the highest hourly mean was 17 ppm. The concentration of hydrocarbons exceeded 8 ppm less than 2 percent of the time. Table 2-10 also indicates that hydrocarbon levels were the same on weekdays and weekends, again probably reflecting the relatively constant methane background.

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*Limited information indicates that methane accounts for 60 to 90 percent of the total hydrocarbons in Cincinnati.

†Since data were incomplete during 1962, Figure 2-17 represents only one year's data; the hourly average bars are thus presented to the nearest whole unit recorded (the nearest 1 ppm) rather than the nearest half unit.

TABLE 2-10
FREQUENCY DISTRIBUTIONS OF TOTAL HYDROCARBON CONCENTRATIONS
Cincinnati, 1962-1963

	AVG'G TIME	PERCENT OF DATA VALID	CONCENTRATION, parts per million as C atom											
				Frequency Distribution, percent										
			MIN	10	30	50	70	90	92	94	96	98	MAX	ARITH MEAN
MAY 1962	5 MIN	72.7	0	0	1	2	2	3	3	4	4	5	8	2.0
JUNE 1962		89.3	0	2	2	2	2	3	4	4	4	5	8	2.5
JULY 1962		49.1	0	2	3	4	4	5	5	5	5	5	6	3.5
AUG 1962		0.0												
SEPT 1962		48.8	0	2	2	3	3	3	4	4	4	5	8	2.5
OCT 1962		89.3	0	2	3	3	3	4	5	5	5	6	8	3.0
NOV 1962		91.7	2	3	3	3	4	5	5	5	6	7	15	3.5
DEC 1962		99.4	0	3	3	4	4	8	9	10	12	13	23	4.5
YEAR 1962	5 MIN	67.4	0	2	2	3	3	5	5	5	6	8	23	3.0
(May-Dec)	30 MIN		0	2	2	3	4	5	5	5	6	9	20	
	1 HR		0	2	2	3	3	5	5	5	6	8	17	
	24 HR		0	2	3	3	3	4	5	5	6	9	10	
JAN 1963	5 MIN	89.5	2	3	3	3	4	5	5	6	6	7	16	3.5
FEB 1963		95.8	2	2	3	3	3	4	5	7	9	11	18	3.5
MARCH 1963		98.5	2	3	3	3	4	4	5	5	6	8	18	3.5
APRIL 1963		97.8	2	3	3	3	3	4	5	5	6	7	11	3.5
MAY 1963		99.1	2	2	3	3	3	4	5	5	6	6	10	3.0
JUNE 1963		94.9	0	2	3	3	4	5	6	7	7	9	25	3.5
JULY 1963		88.1	1	2	3	3	3	4	5	5	5	6	13	3.0
AUG 1963		95.9	0	2	2	2	3	5	5	6	6	6	10	3.0
SEPT 1963		96.4	1	2	2	3	3	5	5	6	6	6	10	3.0
OCT 1963		96.9	2	2	2	3	5	8	8	9	9	10	14	4.0
NOV 1963		91.6	1	3	3	3	4	5	5	5	5	6	11	3.5
DEC 1963		85.5	0	2	3	3	3	4	4	4	4	4	8	3.0
YEAR 1963	5 MIN	94.1	0	2	3	3	3	5	5	6	6	8	25	3.5
	30 MIN		0	2	3	3	3	5	5	6	6	8	20	
	1 HR		0	2	3	3	3	5	5	6	6	8	15	
	24 HR		1	2	3	3	4	4	5	5	5	6	8	
TWO YEARS	5 MIN	83.5	0	2	3	3	3	5	5	6	6	8	25	3.0
(5/62-12/63)	30 MIN		0	2	3	3	3	5	5	6	6	8	20	
	1 HR		0	2	3	3	3	5	5	6	6	8	17	
	24 HR		0	2	3	3	4	4	5	5	6	6	10	
SUMMER 1962	5 MIN	45.7	0	2	2	2	3	4	4	5	5	5	8	3.0
FALL 1962		76.8	0	2	3	3	3	5	5	5	5	6	15	3.0
WINTER 1962-3		94.9	0	3	3	3	4	6	7	8	9	12	23	4.0
SPRING 1963		98.5	2	2	3	3	3	4	5	5	6	7	18	3.5
SUMMER 1963		92.9	0	2	2	3	3	5	5	6	6	7	25	3.0
FALL 1963		95.0	1	2	3	3	4	6	6	7	8	9	14	3.5
WEEKENDS		84.6	0	2	2	3	3	5	5	6	6	8	23	3.2
WEEKDAYS		80.7	0	2	2	3	3	5	5	6	6	8	25	3.4

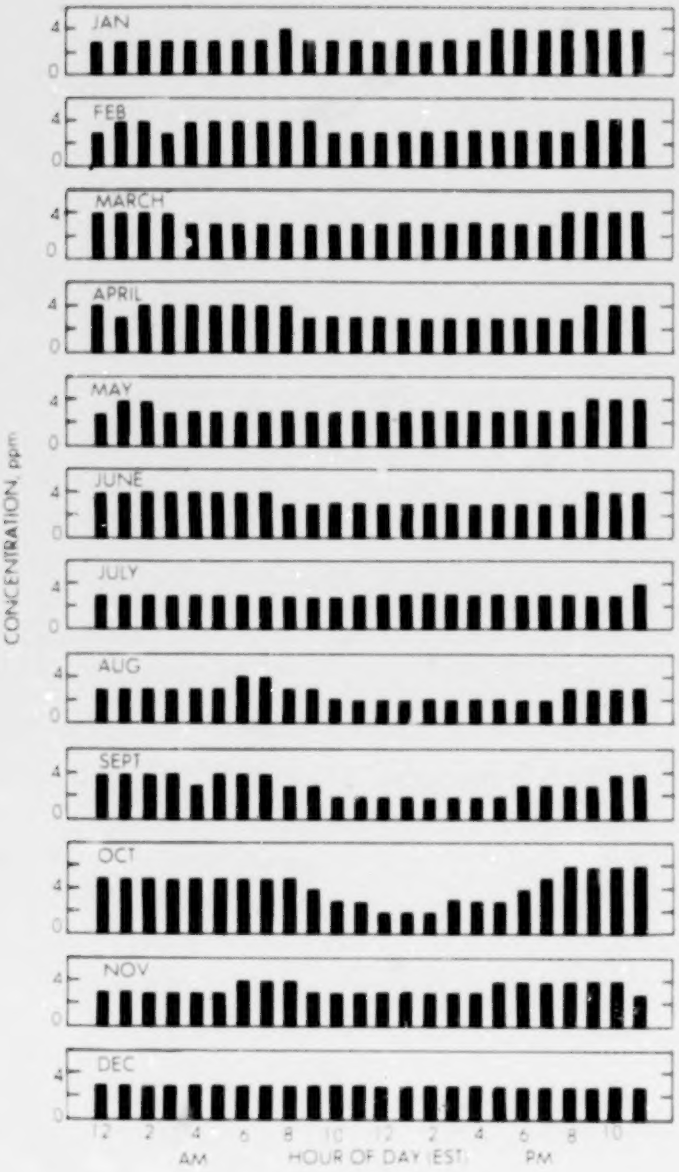

Figure 2-17. Diurnal Patterns of Total Hydrocarbon Concentrations.

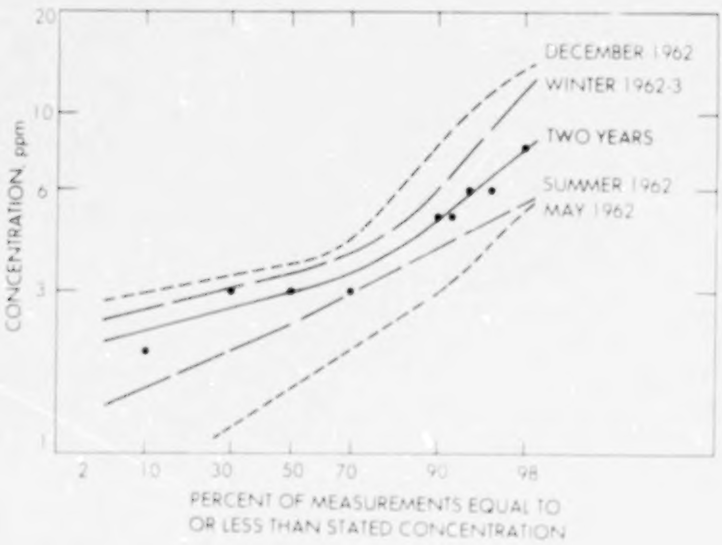

Figure 2-18. Frequency Distributions of Total Hydrocarbon Concentrations.

The association of higher hydrocarbon levels with westerly winds (Figure 2-4) indicates a major source of hydrocarbon emissions west of the station. Approximately one mile away, spreading over a large area generally west of the sampling site, is a large sewage treatment plant. It seems probable that methane emitted from treatment processes at this source was the influencing factor in this directional pattern.

The distribution by month of dosage events representing the highest 2 percent of the total hydrocarbon measurements is presented in Table 2-11. Nearly 80 percent of the individual events were less than 15 minutes long, but several events lasted 4 hours or more and one lasted more than 16 hours.

TABLE 2-11
OCCURRENCES OF HYDROCARBON LEVELS
8 ppm OR GREATER
Monthly Summary

	< 30 min	$\frac{1}{2}$-4 hr	> 4 hr	Total
1962				
May	4	0	0	4
June	1	0	0	1
July	0	0	0	0
Aug		No Data		
Sept	1	0	0	1
Oct	5	0	0	5
Nov	38	1	1	40
Dec	110	16	6	132
1963				
Jan	18	7	0	25
Feb	30	2	4	36
March	19	8	1	28
April	6	4	0	10
May	8	2	0	10
June	40	6	1	47
July	1	0	0	1
Aug	10	2	0	12
Sept	12	2	0	14
Oct	141	26	3	170
Nov	13	4	0	17
Dec	1	0	0	1
1962- 1963	458	80	16	554

The events followed the occurrence of poor dilution conditions even more closely than did the nitric oxide events. The months of November and December 1962 and June and October 1963 account for 70 percent of all the events and for over half of the events longer than 30 minutes. The high frequency of short events during these months results from hydrocarbon levels fluctuating almost continuously at about 8 ppm. The one extremely long event lasted from 10 p.m. on December 2, 1962, until past noon the next day, averaging 11.5 ppm for over 16 hours.

Carbon Monoxide

The highest monthly mean levels of carbon monoxide occurred during autumn, when atmospheric dilution was poorest. The data are so sparse,* however, that any definite conclusions must await further information. The diurnal patterns (Figure 2-19) show a more definite shape; nocturnal accumulations and morning peaks are pronounced.

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*Instrumentation difficulties are discussed in Appendix A.

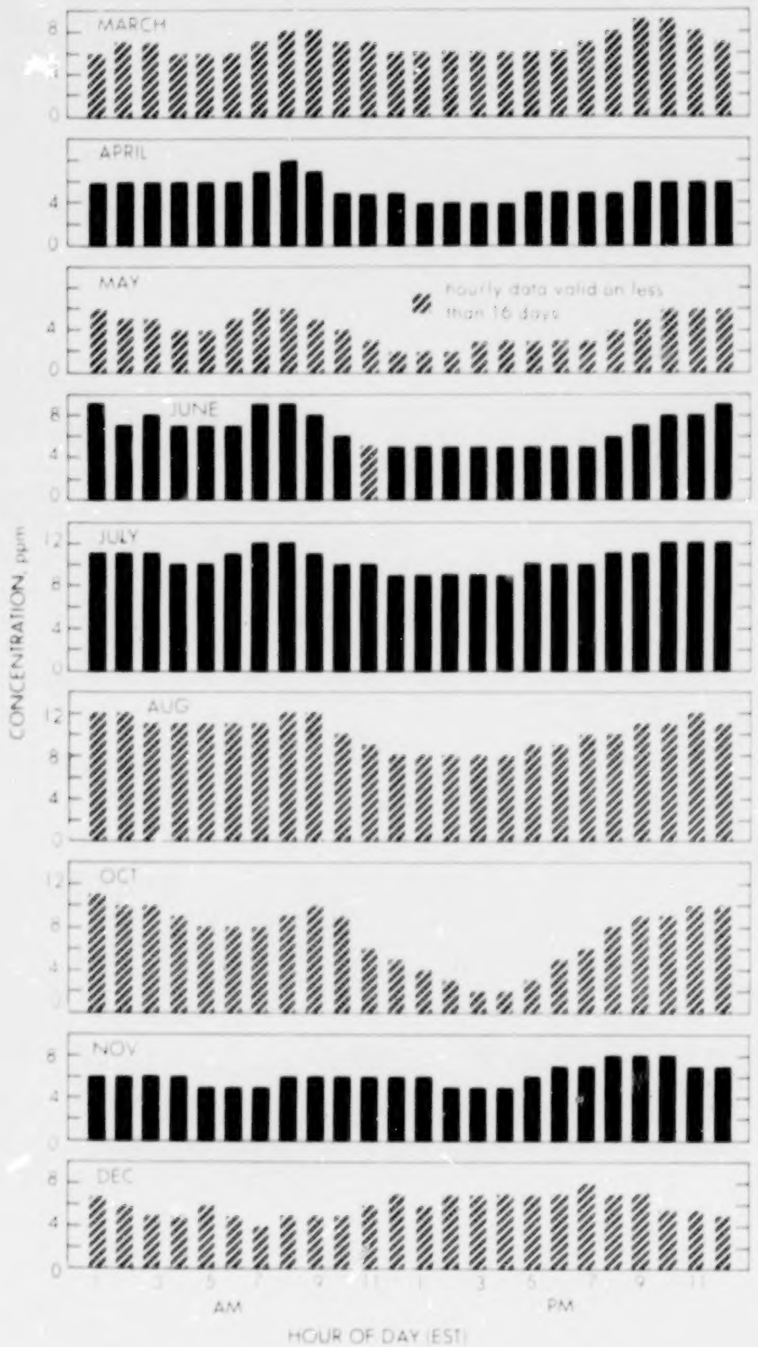

Figure 2-19. Diurnal Patterns of Carbon Monoxide Concentrations.

The higher winter levels expected because of the increase in emissions from space heating are not obvious, perhaps obscured by the high autumn levels. Again, however, the lack of data leaves any interpretation open to question.

The cumulative frequency distributions of carbon monoxide data are presented in Table 2-12 and Figure 2-20. The high summer levels are unexpected, since carbon monoxide emissions from space heating should have been non-existent then. The high summer values occurred primarily during July. Although a stagnation period was not noted at the time, poor atmospheric dilution appears to be the only plausible explanation for the elevated levels. A major stagnation in October 1963 is definitely responsible for the increase in the upper percentiles of the autumn distribution.

Frequency distributions for weekends and weekdays indicate a slight difference, with the weekday curve generally higher, as expected. The final definition of whether this difference is real, and, if so, the extent to which it relates to automotive or other combustion sources, depends upon the accumulation and analysis of additional data.

A dosage analysis of carbon monoxide levels similar to those performed for the other pollutants has been omitted, since only 4 months of data were more than 50 percent valid.

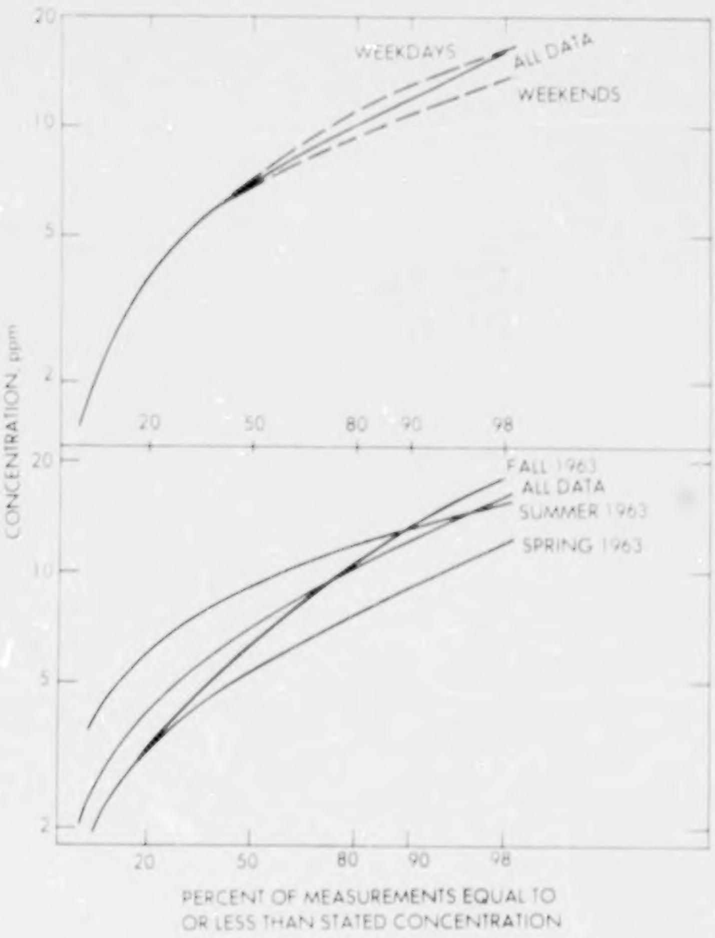

Figure 2-20. Frequency Distributions of Carbon Monoxide Concentrations.

Particulates

In addition to the six gases monitored at the Cincinnati CAMP station, particulate pollutants were sampled during 1963. Although analyses of the soiling index and suspended particulate data are not extensive at present, the results that are available are briefly summarized herein.

Figure 2-21 presents monthly mean values of soiling index. Although the data are not complete, they suggest a seasonal pattern similar to that generally reported, i.e., one roughly following seasonal variations in fuel consumption. Diurnal patterns of soiling index levels for the months with the highest and lowest means are presented in Figure 2-22. During both months, the data exhibited higher nocturnal levels and morning peaks, again suggesting the influence of fuel consumption and possibly of vehicular traffic.

TABLE 2-12
FREQUENCY DISTRIBUTIONS OF CARBON MONOXIDE CONCENTRATIONS
Cincinnati, 1962-1963

	AVG'G TIME	PERCENT OF DATA VALID	CONCENTRATION, parts per million											
			FREQUENCY DISTRIBUTION, percent											ARITH MEAN
			MIN	10	30	50	70	90	92	94	96	98	MAX	
MARCH 1963	5 MIN	29.0	2	5	6	7	7	9	9	10	11	13	29	7.0
APRIL 1963		83.7	0	2	4	6	7	9	10	10	11	12	31	5.5
MAY 1963		50.4	0	1	2	4	5	7	8	8	9	10	20	3.5
JUNE 1963		58.9	0	3	5	6	8	11	11	12	13	15	30	6.5
JULY 1963		64.6	0	7	9	11	12	14	14	15	15	16	22	10.5
AUG 1963		33.9	4	8	9	10	11	13	13	13	14	15	19	10.0
SEPT 1963		7.1	3	6	8	9	10	11	11	11	12	12	15	9.5
OCT 1963		40.7	0	2	4	7	11	15	16	17	18	20	23	7.5
NOV 1963		90.6	0	2	4	5	8	12	13	14	15	17	25	6.0
DEC 1963		21.1	0	3	4	6	7	11	11	12	13	14	26	6.0
YEAR 1963	5 MIN	50.1	0	2	5	7	9	12	13	13	14	16	31	7.0
(Mar-Dec)	30 MIN		0	2	5	7	9	12	13	13	14	16	23	
	1 HR		0	2	5	7	9	12	13	13	14	16	23	
	24 HR		1	3	5	7	9	11	12	12	13	15	16	
SPRING 1963	5 MIN	54.0	0	2	4	5	7	9	9	10	11	12	31	5.5
SUMMER 1963		52.4	0	4	7	9	11	13	13	14	15	15	30	9.0
FALL 1963		46.1	0	2	4	6	9	13	14	15	16	18	25	7.5
WEEKENDS	5 MIN	48.8	0	2	5	7	8	11	11	12	12	13	22	6.5
WEEKDAYS	5 MIN	46.9	0	2	5	7	9	13	13	14	15	16	31	7.0

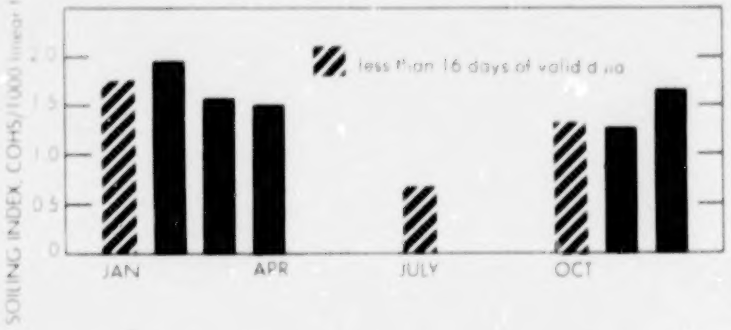

Figure 2-21. Monthly Mean Soiling Index Levels.

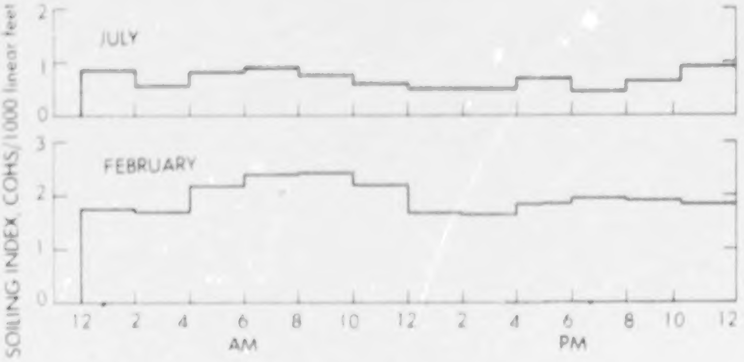

Figure 2-22. Diurnal Patterns of Soiling Index Levels.

Figure 2-23 presents monthly mean values of suspended particulate samples taken at the CAMP station; Tables 2-13, 2-14, and 2-15 present frequency distributions, by season* and for the year, of the daily values, with distributions of data from the Cincinnati NASN station for comparison.

Values for the total weight of suspended particulates exhibited no obvious seasonal pattern, except for elevated levels during the major stagnation in October 1963. The weight of organic particulates was also highest in autumn, particularly in October.

Values for gross beta radioactivity exhibited a distinct seasonal pattern, with highest levels during the spring. This pattern is typical of radioactive pollution originating from nuclear weapons experiments, which accumulates in the upper atmosphere until brought down by seasonal changes in the upper winds.

Figure 2-24 compares the annual frequency distribution of weight of suspended particulates from the CAMP and NASN stations. The suspended particulate levels were slightly higher at the CAMP station, probably because of its lower elevation, although the nearby urban renewal and highway construction may have contributed to the difference. The CAMP curve is much smoother because of the greater number of samples.

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*The winter season includes January and February 1963 with December 1963.

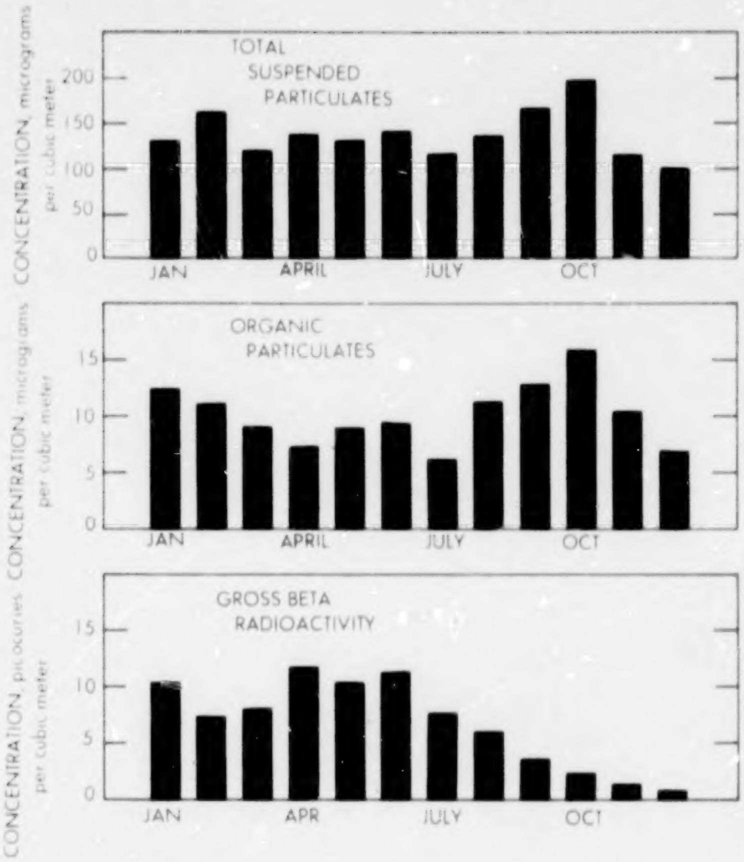

Figure 2-23. Monthly Mean Levels of Particulate Pollution.

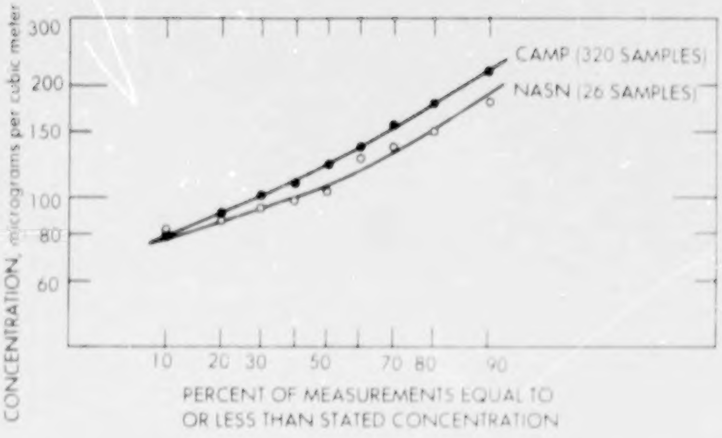

Figure 2-24. Frequency Distributions of Concentrations of Total Suspended Particulates: CAMP and NASN Sites, 1963.

TABLE 2-13
TOTAL SUSPENDED PARTICULATES
Cincinnati CAMP Station, 1963

	No. of Samples	Concentration, micrograms per cubic meter													Std Geo Dev
		Min	Frequency Distribution, Percent									Max	Arith Mean	Geo Mean	
			10	20	30	40	50	60	70	80	90				
CAMP															
Winter	73	49	78	92	99	103	108	112	124	144	209	389	126	117	1.43
Spring	76	55	75	82	94	105	120	141	157	173	188	254	129	121	1.45
Summer	83	64	85	96	104	111	120	128	147	165	191	271	131	125	1.36
Autumn	88	59	82	97	114	132	144	166	189	229	257	309	160	147	1.53
Year	320	49	79	91	101	110	121	136	156	179	219	389	137	128	1.46
NASN	26	69	82	87	94	98	103	127	137	151	180	204	121	116	1.36

TABLE 2-14
BENZENE - SOLUBLE ORGANIC MATTER
Cincinnati CAMP Station, 1963

	No. of Samples	Concentration, micrograms per cubic meter													Std Geo Dev
		Min	Frequency Distribution, Percent									Max	Arith Mean	Geo Mean	
			10	20	30	40	50	60	70	80	90				
CAMP															
Winter	73	2.2	4.5	5.4	6.2	6.7	7.5	9.1	10.7	12.1	18.5	43.1	9.8	8.3	1.74
Spring	76	1.6	3.4	4.6	5.7	6.3	6.9	8.3	9.1	10.5	13.9	24.0	8.3	7.1	1.75
Summer	83	2.2	4.5	5.3	6.2	7.1	7.9	9.0	10.2	11.6	15.2	26.7	9.1	8.1	1.62
Autumn	88	3.4	6.0	7.2	7.8	9.5	10.5	13.5	16.1	19.8	23.2	30.5	13.0	11.4	1.70
Year	320	1.6	4.5	5.6	6.5	7.2	8.2	9.6	11.1	14.0	19.6	43.1	10.1	8.7	1.74
NASN	26	3.0	5.8	6.5	7.2	7.8	8.8	10.3	11.1	12.2	14.4	17.7	9.5	8.8	1.51

TABLE 2-15
GROSS BETA RADIOACTIVITY OF SUSPENDED PARTICULATE MATTER
Cincinnati CAMP Station, 1963

	No. of Samples	Concentration, picocuries per cubic meter													Std Geo Dev
			Frequency Distribution, Percent												
		Min	10	20	30	40	50	60	70	80	90	Max	Arith Mean	Geo Mean	
CAMP															
Winter	42	0.3	0.4	0.6	0.8	0.9	1.0	1.2	1.9	7.2	10.7	13.5	3.3	1.7	3.18
Spring	76	1.3	3.5	5.5	7.4	8.6	10.0	11.1	11.9	14.9	17.0	26.7	10.2	8.8	1.83
Summer	83	1.2	3.3	4.7	6.0	7.5	8.3	9.2	10.1	11.4	13.7	16.4	8.3	7.3	1.74
Autumn	88	.1	.8	1.2	1.5	1.7	2.0	2.3	2.9	3.5	4.5	5.9	2.4	2.0	2.03
Year	289	.1	.9	1.5	2.2	3.4	4.9	7.1	8.9	10.6	13.2	26.7	6.3	4.1	2.80

INCIDENTS OF HIGH POLLUTION

Although the occurrence of both exceptionally low and exceptionally high pollutant levels is unusual, attention is understandably drawn more to the periods of unusually high pollutant concentrations. Such periods of high pollution, as measured at the CAMP station, may be caused by the unusual influence of single large sources. One sample of such a period (August 22, 1963) is given in the previous discussion of sulfur dioxide. An incident of this type generally affects only a small portion of a community.

The more usual period of high pollution is of longer duration and affects the community as a whole. It is caused by periods of minimum natural ventilation resulting from the prolonged intensification of a nocturnal inversion or from a still longer general atmospheric stagnation. The resulting periods of pollution may or may not include photochemical smog formation, depending on the intensity of solar radiation. This section presents several examples of high-pollution incidents involving either intensive photochemical reaction or lengthy stagnations.

Photochemical Smog

Incidents of photochemical smog formation on May 16 and 17, 1962, were previously mentioned (Reference 10), and an occurrence on November 30, 1962, is discussed in Reference 11. Two additional examples that occurred during 1963 are presented graphically in Figure 2-25. In both cases concentration of total oxidant exceeded 0.15 ppm for at least an hour (the sulfur dioxide interference on both dates was negligible), thus indicating the formation of sufficient photochemical oxidants to cause an accumulation despite the improved afternoon dilution. These two events were both typical of such photochemical smog incidents.

Atmospheric Stagnations

On several occasions during 1962 and 1963, stagnating high-pressure systems affected the Cincinnati area, with inversions and poor atmospheric dilution conditions prevailing. Two particularly severe events occurred November 28 through December 4, 1962, and October 14 to 24, 1963. The former is documented in Reference 11. Figures 2-26 and 2-27 compare patterns of diurnal variation of pollutant levels during the stagnation periods to normal seasonal levels.*

During the 1962 stagnation concentrations of sulfur dioxide and total hydrocarbon averaged 80 percent above normal; nitrogen dioxide levels more than doubled. The peak levels were even more severely affected, as noted in Table 2-16.

Since the normal pattern of nitrogen dioxide concentrations exhibits no distinct morning peak, the large peak during the stagnation is apparently due almost entirely to fumigation and conversion of nitric oxide. The sulfur dioxide pattern exhibits a similar effect, but a portion of the morning peak was attributable to the increase in morning source strength seen in the normal pattern. Total hydrocarbon values exhibited a somewhat different pattern, remaining roughly constant except for a significant decrease in the afternoon at the time of maximum dilution potential.

During the 1963 stagnation sulfur dioxide levels were generally lower than normal as the result of low heating demand. The morning fumigation, however, caused levels considerably higher than normal, presumably from the nocturnal accumulation of industrial emissions at the inversion base.

The time of the morning peaks varied considerably among the pollutants; total hydrocarbon peaked at 7:30 a.m., nitric oxide and carbon monoxide at 8:30, and sulfur dioxide and nitrogen dioxide not until 10:30. The 2-hour lag between the two oxides of nitrogen has been noted previously; the differences among the others are presumably due to the morning increases in emissions, which occurred at varying times. The magnitude of the effect of this stagnation is noted in Table 2-17.

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*The normals used were average levels during November and December 1962 and October 1963, respectively, exclusive of the stagnation period.

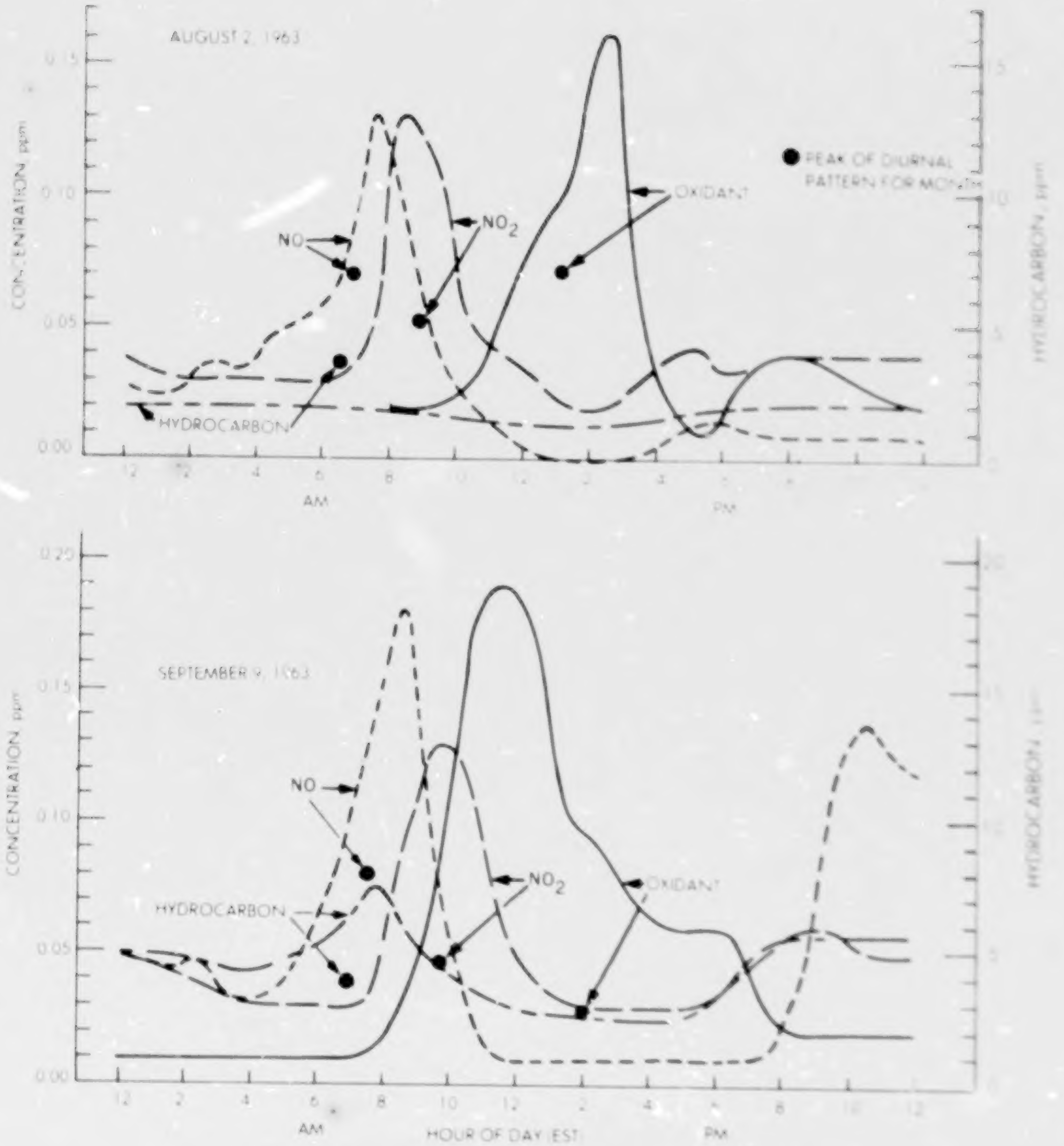

Figure 2-25. Pollutant Levels during Incidents of Photochemical Smog Formation.

TABLE 2-16
COMPARISON OF STAGNATION AND NORMAL POLLUTANT LEVELS
NOVEMBER 28 TO DECEMBER 4, 1962, INCIDENT
Cincinnati

	RATIO OF CONCENTRATIONS			
	STAGNATION PEAK HOUR TO		STAGNATION DAILY MEAN TO	
	Normal Peak Hour	Normal Daily Mean	Normal Peak Hour	Normal Daily Mean
Sulfur Dioxide	2.4	3.2	1.3	1.8
Nitrogen Dioxide	5.0	5.8	2.1	2.4
Total Hydrocarbon	2.1	2.2	1.7	1.8

TABLE 2-17
COMPARISON OF STAGNATION AND NORMAL POLLUTANT LEVELS
OCTOBER 14 TO 24, 1963, INCIDENT
Cincinnati

	RATIO OF CONCENTRATIONS			
	STAGNATION PEAK HOUR TO		STAGNATION DAILY MEAN TO	
	Normal Peak Hour	Normal Daily Mean	Normal Peak Hour	Normal Daily Mean
Sulfur Dioxide	3.0	6.4	0.5	1.1
Nitrogen Dioxide	1.8	2.5	1.1	1.6
Nitric Oxide	3.3	6.3	1.7	3.2
Total Hydrocarbon	2.0	2.6	1.2	1.6
Carbon Monoxide	2.4	3.4	1.5	2.1
Uncorrected Total Oxidant	1.1	3.3	0.3	0.9

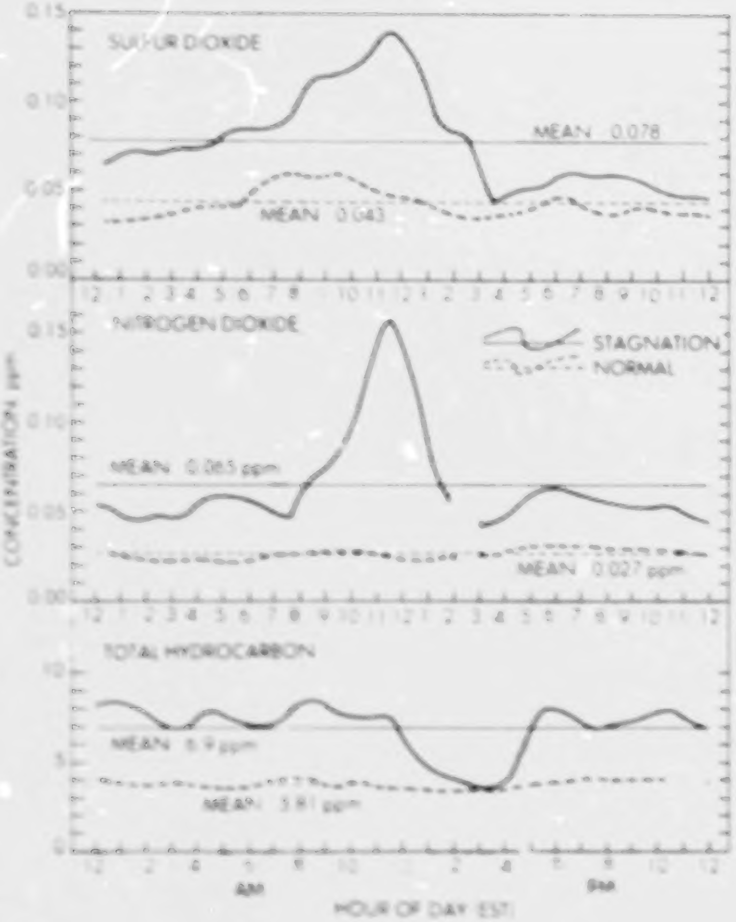

Figure 2-26. Diurnal Patterns of Gaseous Pollutant Levels During November - December 1962 Stagnation.

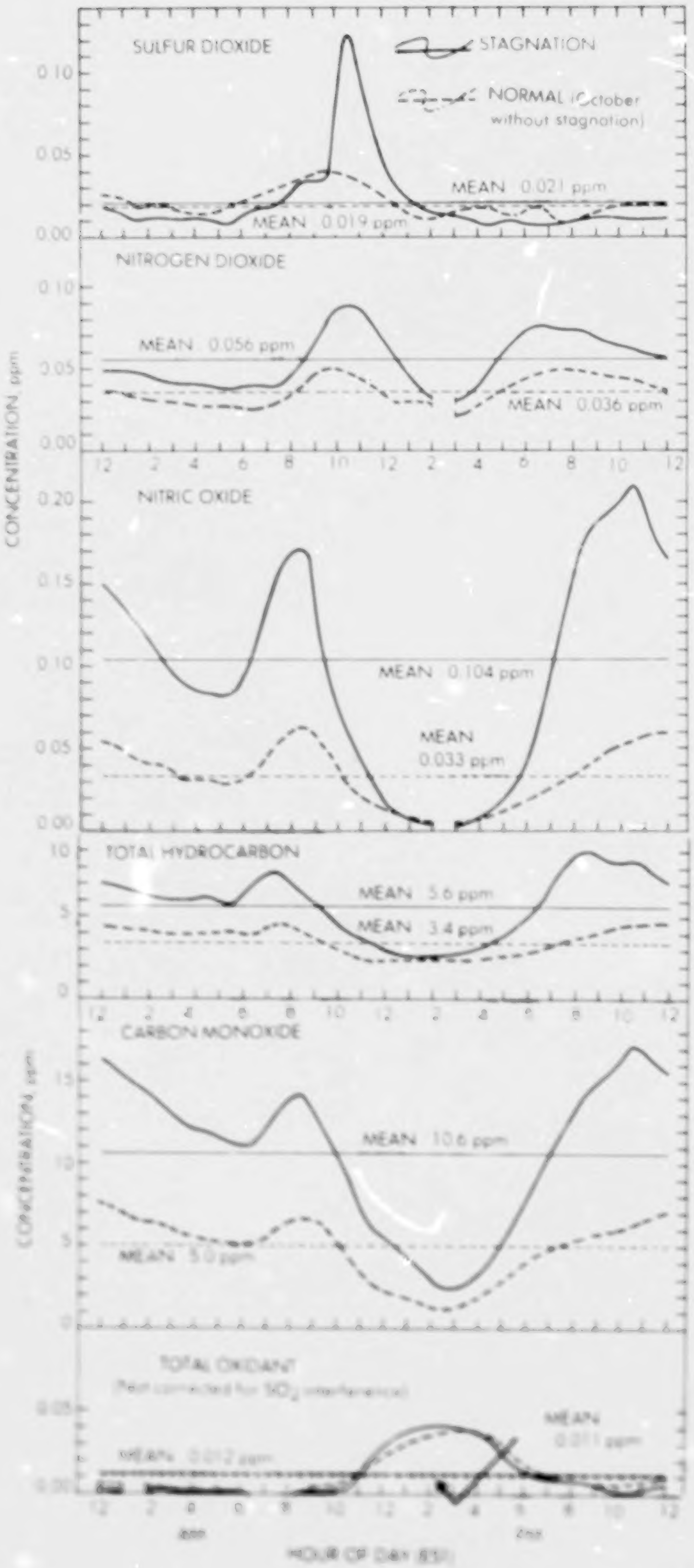

Figure 2-27. Diurnal Patterns of Gaseous Pollutant Levels During October 1963 Stagnation.

Continuous
Air
Monitoring
Program

PART 3:
DATA TABLES

PART 3: DATA TABLES

The results of the first 2 years of CAMP operations in Cincinnati are summarized in the following tables. Although it is intended that this volume can thus serve as a reference, the data are necessarily condensed; more detailed compilations are available, including copies of the magnetic tape master data files. Any interested person or group can obtain this information by arrangement with the Chief of the Air Quality Section, Laboratory of Engineering and Physical Sciences, Division of Air Pollution, at the Robert A. Taft Sanitary Engineering Center.

GASEOUS POLLUTANTS

Table 3-1 lists and indexes those months for which valid data are available, and for which tables are included. Tables 3-2 through 3-126 present hourly average concentrations for each pollutant by month. Values in these tables are the arithmetic means of the 5-minute values in the clock hour beginning at the time indicated. An average is not calculated if the hour is considered an invalid data hour, i.e., if fewer than seven 5-minute values were valid. Similarly, if a calendar day shows fewer than 13 valid hours, it is considered an invalid data day and the entire row of averages for that day is deleted.

The reason for this procedure, which results in the loss of a few valid hourly averages, is that the data thus lost are usually concentrated at the beginning or end of the day. Since pollutant concentrations show considerable diurnal variation, the inclusion of data for such days would introduce into any summary calculations a definite bias in favor of the nocturnal hours.

The first summary line (titled MONTHLY MEAN) represents the arithmetic mean of the hourly averages, and hence represents the pattern of diurnal variation for the month. Again by the same validity criterion, this average is not calculated unless 16 or more hourly averages are present. The second and third summary lines are the number of and maximum of the hourly averages in the column. These maxima must be used with care, since a greater value may have been deleted as part of an invalid day.

The first summary column (titled DAILY MEAN) is the arithmetic mean* of the 13 or more hourly averages comprising the row, and the second summary column is the number of such valid hourly averages. The third summary column however, is not the maximum hourly average for the day, but the maximum 5-minute value included in the hours of valid data during the day. The largest of these is not necessarily the maximum for the month if any days or hours have been deleted as invalid; the maximum 5-minute concentration during the month is best obtained from the tables of frequency distributions, which are compiled without considering the validity of any hour or day.

Two summary figures appear in the lower right corner. The first is the monthly average, an arithmetic mean, and appears only if 16 or more days were valid (a valid data month). The second is the total number of valid hours during the month, which offers some basis for judging the representativeness of the monthly average. (A 31-day month has 744 possible hours; a 30-day month, 720; and February, 672.)

SOILING INDEX

Tables 3-127 through 3-134 present soiling index values at the CAMP station by month. Each value was obtained from a 2-hour integrated sample beginning at the time indicated in the column heading. A missing value indicates that the sample was not taken or was invalid because of instrument malfunction.

The first summary line (titled MONTHLY MEAN) represents the arithmetic mean of the 2-hour average values in the column, and is calculated only if 16 or more days are represented. The first summary column (titled DAILY MEAN) is the arithmetic mean of the 2-hour values for the day; if fewer than seven such values are present, the daily mean is not calculated, but the component 2-hour values for the day are not deleted from the table.

The other summary columns and rows are the number of and maximum of the respective 2-hour values. Three summary figures appear in the lower right corner; the mean and maximum value for the month are the upper left and lower right figures respectively; the center figure is the total number of values. (A 31-day month could have 372 such values; a 30-day month, 360; and February, 336.)

Tables 3-127 through 3-134 are grouped following the gaseous pollutant data tables and are indexed in Table 3-1.

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*Although mean values discussed in the text have been rounded to a precision consistent with the physical significance of the numbers, some of the summary calculations in Tables 3-2 to 3-134 have been reported to the precision permitted by the number of data used. All the summary calculations in the tables are performed before the hourly averages are rounded.

SUSPENDED PARTICULATE MATTER

Tables 3-135 through 3-137 present the results of analyses of 24-hour integrated particulate samples. Table 3-135 presents the concentration of suspended particulate matter; Table 3-136, the concentration of benzene-soluable organic particulate matter; and Table 3-137, the gross beta radioactivity of the particulate matter.

Each value represents a sample collected from about noon to noon, ending on the date indicated, with the exception of those indicated by asterisks; values so marked represent samples integrated over a 48-hour period, usually through a weekend, and entered in the tables as identical values for the 2 days. The summary rows are the arithmetic means of the various values for the month, including the duplicate pairs.

TABLE 3-1
INDEX TO DATA TABLES
Cincinnati, Ohio

	1962											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Sulfur Dioxide	3-2	3-3	3-4	3-5	3-6	3-7	3-8	3-9	3-10	3-11	3-12	3-13
Nitric Oxide	3-26	3-27	3-28	3-29	3-30	3-31	3-32	3-33	3-34	3-35	3-36	3-37
Nitrogen Dioxide	3-50	3-51	3-52	3-53	3-54	3-55	3-56	3-57	3-58	3-59	3-60	3-61
Total Oxidant	3-74	3-75	3-76	3-77	3-78	3-79	3-80	3-81	3-82	3-83	3-84	3-85
Total Hydrocarbon	a	a	a	b	3-98	3-99	3-100	b	3-101	3-102	3-103	3-104
Carbon Monoxide	b	b	b	b	b	b	b	b	b	b	b	b
Soling Index	a	a	a	a	a	a	a	a	a	a	a	a
Suspended Particulates	a											
Organic Particulates	a											
Beta Radioactivity	a											

	1963											
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Sulfur Dioxide	3-14	3-15	3-16	3-17	3-18	3-19	3-20	3-21	3-22	3-23	3-24	3-25
Nitric Oxide	3-38	3-39	3-40	3-41	3-42	3-43	3-44	3-45	3-46	3-47	3-48	3-49
Nitrogen Dioxide	3-62	3-63	3-64	3-65	3-66	3-67	3-68	3-69	3-70	3-71	3-72	3-73
Total Oxidant	3-86	3-87	3-88	3-89	3-90	3-91	3-92	3-93	3-94	3-95	3-96	3-97
Total Hydrocarbon	3-105	3-106	3-107	3-108	3-109	3-110	3-111	3-12	3-13	3-114	3-115	3-116
Carbon Monoxide	b	b	3-117	3-118	3-119	3-120	3-121	3-122	3-123	3-124	3-125	3-126
Soling Index	3-127	3-128	3-129	3-130	b	b	3-331	b	b	3-132	3-133	3-134
Suspended Particulates	3-135											
Organic Particulates	3-136											
Beta Radioactivity	3-137											

[a] Instrument not yet in operation
[b] No valid data

TABLE 3-2 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, JANUARY 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX
1	MON	6	5	5	5	5	5	4	5	5	5	5	6	5	5	5	4	4	4	5	5	3	6	5	8	5.0	24	12
2	TUE	4	6	5	3	3	4	3	4	4	4								7	6	6	7	7	7	8	5.2	17	14
3	WED	7	9	9	14	15	12	7	6	6	8	8	7						4	4	5	4	4	4	5	7.2	19	18
4	THU	4	4	3	4	3	3	3	3	5	6	7	7	5	10	7	5	5	5	5	8	8	6	7	6	5.4	24	17
5	FRI	4	4	7	10	5	6	7	10	9	9	9	5						0	0	0	1	5	2	1	4.9	19	16
6	SAT	1			1	0	0	0	3	3	3	2	2	4	5	15	0								0	2.5	15	36
7	SUN					0	0				1	2	1	1	2	1	1	1	6	7	9	3	1	1	1	2.2	17	13
8	MON		1	1	1	2	1	1	1	2	1	1	2	2	2	2	1	0	2	2	0	0	1	3	1	1.3	23	5
9	TUE	0	3	2	1	2	2	3	5	2	1	2	2	1	2	2	2	3	2	2	2	1	1	1		1.9	23	7
10	WED					0	1	2	4	4	4	3	3	3	3	2	1	1	2	3	2	2	3	2	2	2.4	20	6
11	THU	3	7	5	6	6	8	11	12	7	6	5	11	10	10	11	6	2	1	1	2	4	4	4	6	6.1	24	43
12	FRI	3	2	3	5	9	10	12	19	15	13	9	6	4	9	11	8	16	14	22	10	13	18	12	10	10.5	24	48
13	SAT	7	9	13	18	4	5	3	4	13	5	5	0	1	1	1	1	1	2	3	3	4	3	2	2	4.7	24	25
14	SUN	1	1	1	2	2	2	2	2	23	3	3		2	4	1				3	1		2	3	2	3.2	19	54
15	MON	2	5	8	7	4	3	3	4	3	2	2		3	3	3	3	2	5	4	4	4	3	2	2	3.5	23	10
16	TUE	2	3	3	3	2	2	3	4	6	6	4	2	3	4	6	4	3	2	1	1	2	3	3	2	3.1	24	9
17	WED	3	3	4	4	4	4	5	7	7	7	4	4	3	2	4	3	3	4	3	3	4	5	5	9	4.3	24	12
18	THU	10	13	11	6	5	6	5	7	6	6	4	4	4	4			3	3	2	2	3				5.4	19	14
19	FRI				3	4	3	4	5	5	5	4		6	6		7	7	8	6	5	5	4	4	3	4.9	19	11
20	SAT	3	2	2	3	3	3	3	2	3	4	5	8	7	8	8	7	5	4	4	4	4	4	4	3	4.3	24	11
21	SUN	5	5	4	3	2	2	2	8	10	8	2	1	4	7	2	2	2	3	10	4	8	3	8	4	4.5	24	18
22	MON	6	7	1	8	9	2	32	9	3	3	3	3	4	6				2	2	3	2	2	1	1	5.2	21	46
23	TUE	1	1	2	2	2	3	4	4	4	4		3	3	3	3	3	2	3	4	5	7	7	8	7	3.7	23	9
24	WED	6	5	4	4	5	6	7	9	4	5	6	6	5	4	3	3	6	6	8	5	3	3	4	4	5.0	24	15
25	THU	5	6	4	2	2	4	8	8	7	6	5	6	7	9	10	6	3	3	4	5	3	3	3	4	5.1	24	23
26	FRI	3	4	3	3	2	3	4	4	6	8	4	2	2	3	3	1	1	3	1	1	3	2	2	1	2.8	24	22
27	SAT	1	2	3	3	3	4	4	4	3	4	4	4	3	2	3	2	1	1	2	3	1	0	0	1	2.4	24	6
28	SUN	1	1	1	2	3	3	3	3	4	4	3	1	1	2	3	2	2	2	2	3	3	6	6	6	2.8	24	8
29	MON	4	5	3	6	8	5	5	5	4	7	4	3	2	4	4	3	4	4	5	5	3	2	3	.2	4.2	24	13
30	TUE																											
31	WED																											
MONTHLY MEAN		4	4	4	5	4	4	5	6	6	5	4	4	4	5	5	3	3	4	4	4	4	4	4	4	4.3		
NO. OF DAYS		25	25	25	27	29	29	28	28	28	29	27	25	26	26	23	23	23	27	28	28	27	27	27	27		637	
MAX HRLY MEAN		10	13	13	18	15	12	32	19	23	13	9	11	10	10	15	8	16	14	22	10	13	18	12	10			

TABLE 3-3 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, FEBRUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	4	3	3	6	3	4	7	10	4	2	2				6	6	8	8	6	9	9	7	7	10	5.9	21	32
2	FRI	8	7	8	11	10	12	13	18	19	12	18	9	8	5	8	8	6	6	7	6	7	7	6	7	9.4	24	40
3	SAT	14	8	4	4	7	8	8	7	5	7	6	6	4	3	3	4	3	6	10	10	10	11			6.8	22	39
4	SUN																											
5	MON																											
6	TUE																											
7	WED																											
8	THU																											
9	FRI																											
10	SAT																											
11	SUN																											
12	MON																											
13	TUE																											
14	WED																											
15	THU																											
16	FRI																											
17	SAT																											
18	SUN																											
19	MON																											
20	TUE																											
21	WED	4	2	2	2	1	1	2	3	3	2	3	3	2	1	1	1	1	2	3	8	2				2.2	21	11
22	THU			1	1	1	1	2	0	1	1	5	4					0	1		1	1	1	1	3	1.4	17	6
23	FRI	3	2	2	1	1	1	3	2	2	2	2	1	2	1	1		0	1	1	0	0	1	1	1	1.3	23	4
24	SAT	1	0	1	2	3	3	3	3	2	2	2	3	3	5	4	3	2	1	1	2	1	1	1	1	2.1	24	6
25	SUN	2	1	2	2	2	3	3	5	4	5	4	2	3	5	4	1	1	1	1	1				0	2.6	21	7
26	MON																											
27	TUE		2	2	2	3	4	3	3	2				4	4	4	3	4	4	3	3	3	3	3	4	3.2	20	5
28	WED	3	4	4	3	3	3	3	5	5				5	5	5	4	4	4	4	3	3	3	3	2	3.7	21	7
MONTHLY MEAN																										214		
NO. OF DAYS		8	9	10	10	10	10	10	10	10	8	8	7	8	8	9	8	10	10	9	10	9	8	7	8			
MAX. HRLY MEAN		14	8	8	11	10	12	13	18	19	12	18	9	8	5	8	8	8	8	10	10	10	11	7	10			

TABLE 3-4 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis)

CINCINNATI, MARCH 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	2	2	2	2	2	3	3	3	4	3	3	3	2	2	3	2	2	2	2	2	3	3	3	2	2.5	24	5
2	FRI	2	3	3	3	3	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	3.8	24	5
3	SAT	5	6	5	6	6	6	6	7	6	6	6	6	4	4	4	4	4	4				1	2	2	4.8	21	7
4	SUN	3	3	4	5	4	4	5	5	5	5	5	8	10	7	6	5	5	5	5	5	7	9	8	7	5.6	24	12
5	MON	5	6	6	5	5	4	5	6	5	4	5			1	1	1	1	1	1	1	1	1	1	1	3.0	22	7
6	TUE	1	1	1	1	1	1	1	1	1	1	1	1	1	1				1	1	1	1	1	2	2	1.1	21	4
7	WED	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1.1	24	4
8	THU																											
9	FRI																											
10	SAT										1	1	1	1	1	1	0	0	0	0	1	1	1	1		0.8	14	5
11	SUN		1	1	1	1	1	1	1	1	1	1	1	1	1	1										1.0	14	1
12	MON																											
13	TUE																											
14	WED																											
15	THU																											
16	FRI		1	1	1	1	1	1	1	1	1	2	6			4	4	3	3	3	4	4	4	3	3	2.5	21	7
17	SAT	3	2	2	3	3	3	4	3	3	3	3	3	2	3	2	2	3	3	3	3	3	3	2	2	2.8	24	4
18	SUN	3	3	3	4	4	4	4	6	6	6	4	3	3	3	2	1	1	1	1	2	3	3	3	3	3.2	24	8
19	MON	6	7	5	5	5	2	18	4	4	26		4	4	3	3	2	3	3	3	5	6	6	3	4	5.7	23	46
20	TUE	3	3	4	4	4	4	5	6	5					1	1	1	1	1							3.0	14	7
21	WED											2	2	2	1	1	4	2	2	2	2	3	2	2	1	1.9	14	7
22	THU	1	1	1	1	1	2	2	2	3	2	2	2	2	2	3	3	3	2	2	3	3	2	3	3	2.1	24	5
23	FRI	3	3	3	3	2	2	3	3	3	3	3	3	4	3	3	3	3	3	2	2	3	5	5	4	3.1	24	7
24	SAT	5	5	6	5	4	5	5	5	6	4	2	2	2	1	1	2	2	3	3	4	5	4	4	4	3.7	24	8
25	SUN	3	4	3	3	3	3	2	3	4	5	4	3	3	3	3	3	3	3	4	4	5	5	5	5	3.5	24	6
26	MON	3	4	3	3	3	4	5	6	5			5	5	5	4	4	4	4	5	5	5	6	6	5	4.5	22	7
27	TUE	6	5	5	4	4	4	5	7	8	12	6	5	6	4	3	3	2	3	3	4	5	5	4	3	4.8	24	14
28	WED	4	4	5	3	4	4	8	11	13	10	6	6	8	10	2	8	10	12	9	9	8	11	6	20	8.0	24	35
29	THU	9	4	6	8	9	6	5	8	14	8	3	4	2	2	3	2	15	11	6	23	3	5	9	19	7.7	24	52
30	FRI	8	2	4	2	2	2	2	3	3	3	4	3	3	2	3	3	3	4	3	4	4	3	4	5	3.3	24	20
31	SAT	3	3	3	2	3	3	4	5	6	5	5	5	4	3	2	3	3	3	3	4	4	3	3	2	3.5	24	8
MONTHLY MEAN		4	3	3	3	3	3	4	4	5	5	3	4	3	3	3	3	3	3	3	4	4	4	4	5	3.6		
NO. OF DAYS		21	23	23	23	23	23	23	23	23	22	22	23	22	24	24	23	23	24	22	22	22	23	23	22		546	
MAX. HRLY MEAN		9	7	6	8	9	6	18	11	14	26	6	8	10	10	6	8	15	12	9	23	8	11	9	20			

CINCINNATI, APRIL 1962

TABLE 3-5 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis)

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	2	4	3	4	4	4	5	6	5	7	4	5	4	2	3	3	2	2	2	3	3	2	3	4	3.5	24	9
2	MON	3	4	4	4	4	5	5	5	3	3			4	4			2	2	2	3	3	3	3	3	3.5	20	6
3	TUE	2	3	2	2	5	4	6	9	6	4						1	1	1	2	1	2	2	3	3	3.1	19	12
4	WED	2	3	3	3	4	4	8	7	7	6	4	2	2	3	3	3	3	2	1	1	2	3	3	3	3.3	24	11
5	THU	3	3	3	4	6	4	7	6	8	5	2	3	2	2	2	7	12	13	8	6	2	1	2	2	4.7	24	24
6	FRI	0	1	4	6	2	5	5	5	1	2	5	3	3	2	1	1	4	2	1	2	2	2	2	1	2.5	24	18
7	SAT	1	4	3	2	2	2	3	5	3	2	2	1	1	2	2	2	2	1	1	2	3	4	4	4	2.4	24	6
8	SUN	5	3	2	1	1	1	1	1	1	1	1	3	4	1	1	4	5	7	7	2	3	1	8	1	2.7	24	19
9	MON	4	1	1	1	0	0	1	2	3		1	1	1	1	1	1	1	2	1	1	1	1	2	1	1.3	23	11
10	TUE	1	2	3	3	4	5	15	14	13	6	2	1	1	2	1		9	6	11	11	11	11	12	12	6.7	23	20
11	WED	14	19	10	10	10	9	12	10	10	8	9	7		1	1	1	2	2	3	4	3	4	4	2	6.7	23	23
12	THU	2	2	2	3	3	4	6	4	4	3	3	2	2	3	3	4	3	2	3	3	1	2	2	1	2.8	24	9
13	FRI	1	2	1	1	0	0	2	1	2	2	3	2	2	2	2	2	1	2	2	2	5	5	5	5	2.1	24	10
14	SAT	4	5	5	5	4	4	4	3	2	3	2	1	1	1	1.	1	1	1	1	2	2	3	2	2	2.5	24	7
15	SUN	2	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.7	24	3
16	MON	2	2	3	2	2	3	4	3	2		3	5	2	1	2	1	2	1	2	3	4	4	3	2	2.5	23	8
17	TUE	2	2	2	2	2	3	5	6	6	6	3	4	3	3	4	3	4	3	4	5	4	4	3	2	3.5	24	10
18	WED	2	3	2	2	3	4	7	5	5	3	3	2	2	2	1	1	1	1	1	2	2	3	5	2	2.6	24	7
19	THU	3	2	3	3	4	2	3	2	3	6	3	2	14	7	5	1	1	1	1	2	2	1	1	1	3.0	24	23
20	FRI	1	1	1	2	2	2	3	3	2	2	2	2	1	1	1	1	1	1	1	1	2	2	2	4	1.7	24	5
21	SAT	4	4	3	3	3	3	4	5	4	3	3	4	6	4	3	3	2	5	4	1	1	1	2	2	3.1	24	14
22	SUN	3	1	3	2	2	2	2	1	1	1	1	2	7	1	1	1	1	1	1	3	4	5	7	1	2.1	24	12
23	MON	2	1	1	1	1	1	1	2	1		1	2	3	2	2	0	1	1	1	2	2	2	2	1	1.5	23	5
24	TUE	3	4	3	2	2	2	5	9	9	6	3	4	4	3	2	3	5	3	1	1	1	2	5	4	3.6	24	12
25	WED	4	4	4	3	3	5	12	10	6	3	2	1	1	2	3	2	2		0	0	1	1	1	2	3.1	23	16
26	THU	3	3	3	2	2	3	4	7	11	13	5	1	1	1	1	1	1	1	0	0	1	1	2	3	2.9	24	20
27	FRI	2	2	2	3	2	2	3	3	5	1			1	1	1	2	3	2	1	2	3	6	4	7	2.5	22	10
28	SAT	6	9	6				0	1	2	2	3	3	2	3	8	2	3	7	5						4.0	16	23
29	SUN																											
30	MON																											
MONTHLY MEAN		3	3	3	3	3	3	5	5	5	4	3	3	3	2	2	2	3	3	3	2	3	3	3	3	3.0	647	
NO. OF DAYS		28	28	28	27	27	27	28	28	28	25	25	25	26	27	26	26	28	27	28	27	27	27	27	27			
MAX. HRLY MEAN		14	19	10	10	10	9	15	14	13	13	9	7	14	7	8	7	12	13	11	11	11	11	12	12			

TABLE 3-6 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, MAY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HRS	5-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	9	2			3	6	14	4	6	0		0	1	1	4		0		3	1	1	1	2		3.1	18	29
2	WED				0	1	1	2	3	2	0	0			0	0	0	1	1	2	4	2	4	2	2	1.4	19	8
3	THU	2	3	3	3	0	1	2	2	2	3	3	2	1	1	1	1				1	1	1	1	0	1.6	21	6
4	FRI	1	1	2	1	2	2	3	5	8	12	5	0						0	0	0	0	0		0	2.4	18	18
5	SAT	1	1		1	1	1	1	2	5	3	1	0	1	0							0				1.3	14	11
6	SUN				1	1	3	2	2	4	1	1	1	1		1			0		0	1	0	0	1	1.2	17	7
7	MON	1	1	2	3	4	4	5	2			0	0		0	1	1				1	0				1.5	15	6
8	TUE	1	5	3	2	1	2	3	3	2	6	2	4	1	2	2	1			0	1	2	1	1	3	2.2	22	20
9	WED	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1.1	24	3
10	THU	1	1	1	1	1	2	2	2	3	3	3	3	2	3	3	8	6	2	2	2	2	2	3	4	2.6	24	26
11	FRI	6	3	3	4	3	3	3	4	6	3	3										1	1	1	0	2.8	15	9
12	SAT		1	1	1	1	0	0	1	5	3	1	0	1			1			1		0	1	0	0	1.1	18	7
13	SUN	0	2	1	1	2	4	3	2	2	1	1	1		1	1	0					1				1.4	16	6
14	MON																											
15	TUE	2	5	5	7	4	3	2	2	3	3	3	4									0	1	1	2	2.8	16	30
16	WED	1	0						2	3	5	8	6	4	3	2	1	2	1	1	1	1	1	1	1	2.4	19	11
17	THU	1	1	1	1	1	1	1	4	6	8	8	3	2	2	1	3	5	1	1	1	1	1	2	1	2.4	24	17
18	FRI																											
19	SAT																											
20	SUN																											
21	MON																											
22	TUE																											
23	WED																											
24	THU																											
25	FRI						0	4	6	10	1	1	4	3	1	1	1		2	11	3	2	1	1	0	2.7	18	30
26	SAT																											
27	SUN																											
28	MON																											
29	TUE	3		0			0	1	1	1	3	5	3	3	2	3	8	7	7	6	6		0	0	0	2.8	20	24
30	WED																											
31	THU					2		1	4	2	2	1		1	1	1				0	0	0	1			1.2	13	8
MONTHLY MEAN						2	2	3	3	4	3	3	2									1	1					
NO. OF DAYS		14	14	12	14	16	17	18	19	18	18	18	16	13	14	14	12	7	9	12	14	18	16	14	14		351	
MAX. HRLY MEAN		9	5	5	7	4	6	14	6	10	12	8	6	4	3	4	8	7	7	11	6	2	4	3	4			

TABLE 3.7 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis)

CINCINNATI, JUNE 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI																											
2	SAT																											
3	SUN																											
4	MON	1							1	9	8		3		3	4	4		4	2	2	1	0	6		3.4	14	25
5	TUE																											
6	WED																											
7	THU																											
8	FRI																											
9	SAT																											
10	SUN																											
11	MON																											
12	TUE			1			1	1	1	2				1	1	1	1	1	1	1	2	1	1	1	1	1.1	17	6
13	WED	1	1	2	1	1	2	2	3	2	2	1	1	1	1	1	1	1	0	0	1	1	2	2	2	1.4	24	6
14	THU	1	1	1	1	1	1	3	5	3	1	1	1	1	1	1	2	0			0	0	1	0	0	1.2	22	6
15	FRI					0	1	3	3	2	2	2	1	1	1	1						0	1	1	0	1.3	15	5
16	SAT	1				1			1	1	1	0	1	1	2	2	1	1	1	1				0	1	0.9	16	7
17	SUN	0	0	0	0	0	0		3	11	12	1	1	1	1			1			0	0	0	1	1	1.7	19	20
18	MON	1	1	1	0	1	1	1	8	15		3	1	1	1	1	1	1	1	0	1	0	0	5	0	2.0	23	19
19	TUE	4						0	1	1	1	1	1	1	4	4	2	1	0	1	1	0	1	0	0	1.3	19	17
20	WED	1	3	2	2	4	3	5	3	3	2	2	1	1	1	0	1	0	0	0	1	1	1	1	1	1.5	24	9
21	THU	0	1	0	1	1	1	1	2	6	8	5	3	3	2	2	1	2	3	1			0			2.1	20	12
22	FRI			1					1	2	6	14	8	2	7				1	1	1	1	2	2	1	3.3	15	33
23	SAT																											
24	SUN																											
25	MON																											
26	TUE	1	0	1	1	1	0	1	2	2	6	1		1	2		0	1	2		4	1	3	3		1.6	20	12
27	WED				0	0	1	1	1	1	1	2	1	2	1	1	1	1	1	3	1	1	1	1	1	1.1	21	5
28	THU	1	1	1	2	2	1	2	3	2	2	1	1		1	1	1	1		0	0					1.2	18	9
29	FRI		0	8	1	0	1	5	9	12	3		4	3			0	2	3	5	0	0	2	1	2	3.0	20	32
30	SAT	1	1	1	1	1	0	3	4	2	2	1	4	2	1	1	0			2	3	2	1	1	1	1.6	22	6
MONTHLY MEAN									3	4					2													
NO. OF DAYS		12	10	12	11	13	13	13	17	17	15	14	15	15	16	13	14	13	12	13	14	14	15	15	13		329	
MAX. HRLY MEAN		4	3	8	2	4	3	5	9	15	12	14	8	3	7	4	4	2	4	5	4	2	3	6	2			

TABLE 3-8 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, JULY 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	SUN	1	1	1	1	1	1	1	1	2	2	2	0										3			1,4	13	10
2	MON																											
3	TUE																											
4	WED	0							1	1	1	12	5	1	0	2	2	2	2	1	0	0	0	0	0	1,6	18	33
5	THU		0	0	0	2	5	2	3	2	2	5	3	2		1	1			1		0	0	3	4	1,8	19	11
6	FRI	3	2	1	1	1	1	0	5	3	3	5	2	4	5		2						1			2,4	16	17
7	SAT	0		1			1	2	3	1	11	3	17	4	0						0	1	1	2	1	2,9	16	37
8	SUN																											
9	MON																											
10	TUE																											
11	WED																											
12	THU																											
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU		1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	0	0	0	1	1	1	1	0	0,8	23	3
20	FRI																											
21	SAT																											
22	SUN																											
23	MON																											
24	TUE																											
25	WED																											
26	THU																											
27	FRI		0	1	1	3	2	4	4	5	1	1	1	1	1	1	1	1	0	1	1	1	1	0	1	1,4	23	9
28	SAT	1	3	3	1	1	1	1	2	2	2	1	1	1	3	2	3	2	5	1	0	1	1	1	4	1,7	24	13
29	SUN	3	1	1	1	4	3	3	3	3	1	1	4	9	4	5	1	1	1	1	4	3	1	1	1	2,5	24	16
30	MON	1	1	1	1	1	1	2	3				3	3	3	2	1	1	1	1	1	1	2	2	1	1,5	21	6
31	TUE	1	1	1	1	2	1	1	8	8	8	4	2	2	3	2	1	1	1	1	1	2	1	1	3	2,4	24	25
MONTHLY MEAN																										221		
NO. OF DAYS		8	9	10	9	9	10	10	11	10	10	10	11	10	9	8	9	7	7	8	8	9	11	9	9			
MAX. HRLY MEAN		3	3	3	1	4	5	4	8	8	11	12	17	9	5	5	3	2	5	1	4	3	3	3	4			

TABLE 3-10 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, SEPTEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT																											
2	SUN																											
3	MON																											
4	TUE																											
5	WED																											
6	THU																											
7	FRI	1	1		1	0	1	4	5	5	4	7	3	1		3	5	9	5	6	2	1	1	1	1	3.0	22	17
8	SAT	2	3	2	1	1	1	1	2	2	5	6	4	2	11	7	7						4			3.5	17	28
9	SUN																											
10	MON			4	14	12	17	8						2			3	1	1	2	3	5	5	5	3	5.5	15	43
11	TUE		1	1			1	0	3	4	3				0	1	1		0	1	2	2	2	1	0	1.3	17	6
12	WED	0	0	1					1	2	3	1	1	2							1	0		1	1	1.1	13	12
13	THU																											
14	FRI																											
15	SAT																											
16	SUN	2	2	2	2	2	2	2	2	2	1	1	0	0	1	0	0	0					6	1	2	1.4	20	9
17	MON	1	2		0	0	0	2	4			1	1	0	1	1	0	0	1	1	2	1	1	1	1	1.0	21	7
18	TUE	0	1	1	4	8	6	4	3	2	1	1	1			0	0	0	0	1	1	1	1	1	3	1.8	22	18
19	WED	6	4	3	4	5	4	3	2	3	1	2	4	4	6	2	1	2	1	1	2	2	2	1	1	2.6	24	14
20	THU	2	1	2	2	3	5	6	3	4	4	3	2	2	2	1	1	1	1	2	3	4	3	2	2	2.5	24	7
21	FRI	1	1	2	1	1	1	2	3	11	9	1	1	1	2	4	4	6	3	1	2	2	2	2	3	2.8	24	18
22	SAT	3	3	2	3	4	3	3	3	6	4	3	3	2	2	1	1	1	1	2	2	1	2	1	2	2.4	24	11
23	SUN	2	2	2	2	2	3	3	3	3	3	2	1	1	1	1	1	1	1	1	2	1	1	2	2	1.8	24	4
24	MON	2	2	2	3	3	2	2	5			12	2	1	2	2	1	2	3	1	1	1	1	2	4	2.5	22	21
25	TUE	6	3	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	0	0	1	1	1	3	2	1.1	24	10
26	WED	2	2	3	3	4	4	4	6	5	5	3	2	2	1	1	1	1	1	1	1	1	1	1	1	2.3	24	7
27	THU	1	1	1	1	1	1	2	2	2	2	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1.3	24	3
28	FRI	1			0	1	1	1	2	2	2	2	1	1	1	0	0	0	0	1	1	2	2	1	1	1.0	22	4
29	SAT	1	2	1	1	2	1	2	2	3	2	1	1	0	1	1	1	1	1	1	1	1	1	2	2	1.2	24	6
30	SUN	2	3	2	1	1	2	1	2	3	3	3	1	3	1	1	2	1	1	1	1	1	1	2	2	1.7	24	9
MONTHLY MEAN		2	2	2	2	3	3	3	3	3	3	3	2	1	2	1	2	2	1	1	1	2	2	2	2	2.0		
NO. OF DAYS		18	18	17	18	18	19	19	19	17	17	18	-18	18	16	18	19	17	17	17	18	18	19	19	19		431	
MAX. HRLY MEAN		6	4	4	14	12	17	8	6	11	9	12	4	4	11	7	7	9	5	6	3	5	6	5	4			

TABLE 3-9 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis)

CINCINNATI, AUGUST 1962

DAY OF MONTH	DAY OF WEEK	A M 12	1	2	3	4	5	6	7	8	9	10	11	P M 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	WED																											
2	THU																											
3	FRI																											
4	SAT																											
5	SUN																											
6	MON																											
7	TUE																											
8	WED																											
9	THU																											
10	FRI																											
11	SAT																											
12	SUN																											
13	MON																											
14	TUE																											
15	WED			0	2	2	1				1	4	9	22	11	8				1	1	1	1	1	1	4.0	16	34
16	THU	1	0	0	1	1	1	1	7	4	6			1					1	2	2	1	2	1	1	1.8	18	23
17	FRI																											
18	SAT	1	1		0	1	2	1	1	1	6	7				1		0	1	1	0	0	0		0	1.2	18	16
19	SUN																											
20	MON	1	2	2	2	2	2	3	4			2	2	2	2	1	1	1	2	2	2	1		0	1	1.7	21	8
21	TUE																											
22	WED										1	0	0			0	1	1	1	1	1	1	1	1	1	0.8	13	5
23	THU		1	1	1	1	1	1	3	10	7	6		2	1	3	3	1	1	2	2	2	2	2	1	2.4	22	11
24	FRI	2	1	2	1	1	1	2	3	3	2	1	2	1	2	3	3	1	2		1	1	1	1	2	1.6	23	11
25	SAT	1	2	1	1			1	2	2	1	2	7	4	3	1	2	3	3	5	5	4	3	2	4	2.6	22	17
26	SUN	5	4	4	3	2	2	1	2	2	2	3	2	4	6	2	5	3	1	2	1	2	2	2	2	2.6	24	11
27	MON	2	2	1	2	2	2	2	3	2		2	1	1	2	1	1	0	1	0	1	2	1	2	1	1.4	23	4
28	TUE	1	1	1	1	1	1	1	2	5	6	2	1	0	1	1	1	2	2	1	1	1	1	1	2	1.4	24	7
29	WED	1	1	1	2	1	2	2	2	8	6	3	4	1		1					2	2	1	1	.1	2.2	19	16
30	THU	2	2	1	0	0	1	1	1	2	18	9	4	3	0		1	1	0	2	1	1	1	2	1	2.4	23	45
31	FRI	1	1	1	1	1	1	2	7	8	1	7	3	3	3	3	3		17	1	2			5	2	3.5	21	37
MONTHLY MEAN NO. OF DAYS MAX. HRLY MEAN		11 5	12 4	12 4	13 3	12 2	12 2	12 3	12 7	11 10	12 18	13 9	11 9	12 22	10 11	12 8	10 5	10 3	12 17	12 5	14 5	13 4	12 3	13 5	14 4	287		

TABLE 3-12 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, NOVEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	3	4	4	3	2	3	4	5	5	5	6	3	2	2	2	3	3	4	4	4	4	5	5	5	3.6	24	7
2	FRI	4	3	3	7	4	8	8	4	2	2	3	2	3	2	3	4	5	4	4	3	3	3	3	3	3.6	24	10
3	SAT	2	2	4	6	6	7	8	9	8	8	7	4	4	3	3	4	4	5	5	4	4	3	3	3	4.8	24	10
4	SUN	3	3	3	2	2	3	2	4	6	7	7	4	3	3	3	4	4	6	3	3	3	3	3	2	3.5	24	12
5	MON	2	2	3	3	3	3	4	4	5	4	5	5		5	4	4	4	4	4	4	4	4	3	2	3.6	23	6
6	TUE	2	3	3	2	4	5	10	9	12	13	7	5	15	10	5	4	4	4	4	4	3	3	3	3	5.7	24	31
7	WED	3	4	4	7	4	7	12	12	5	4	5	5	5	4	4	4	4	3	4	7	12	4	5	5	5.5	24	21
8	THU	5	4	4	9	12	9	12	10	10	8	7	6	12	3	4	3	2	3	2	1	1	1	2	2	5.5	24	32
9	FRI	1	1	2	2	3	3	3	3	3	3	4	3	3	3	3	2	2	2	2	2	2	3	3	3	2.6	24	5
10	SAT	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	4	3	2	2	2.2	24	4
11	SUN	2	2	2	2	3	4	3	3	3	5	5	10	11	4	3	2	2	4	4	2	1	1	1	2	3.3	24	17
12	MON	2	2	3	3	4	5	5	6	6	5	5	6	5	4		4	3	3	3	3	3	4	3	4	3.9	23	7
13	TUE	3	3	3	3	3	3	5	6	7	5	4	3	3	3	2	2	5	6	4	5	4	4	4	4	4.0	24	10
14	WED	4	5	6	5	7	7	13	13	11	12	11	9	5	4	3	2	2	3	5	3	4	4	3	3	6.0	24	17
15	THU	4	3	3	4	3	3	6	9	5	4	3	3	4	5	5	5	4	5	5	6	4	3	3	4	4.2	24	11
16	FRI	4	5	4	4	3	2	3	4	5	7	7	6	3	3	4	3	2	1	2	1	1	2	1	1	3.2	24	12
17	SAT	1	1	1	1	1	1	2	4	3	0	0	1	1	1	0	1	1	1	1	2	2	1	1	2	1.2	24	5
18	SUN	2	2	3	3	3	3	3	1	2	1	1	1	2	2	2	2	2	2	2	3	2	4	2	1	2.1	24	8
19	MON	1	1	1	1	1	1	2	2	2	2	5	8	3	1	1	1	1	1	1	1	1	2	1	0	1.6	24	12
20	TUE	0					1	3	4	1	12	5	6	11	17	8	11	23	16	3	2	2	9	7	10	7.5	20	49
21	WED	1	1	0	0	0	0	2	1	2	2	1	1	0	1	2	4	7	8	6	5	5	3	2	2	2.3	24	12
22	THU	2	1	2	1	0	1	1	1	1	1	0	1	1	1	1	0	1	0	1	1	1	2	3	4	1.1	24	6
23	FRI	4	2	1	1	2	2	4	10	13	20	14	4	4	2	2	6	2	27	39	2	1	1	2	2	6.9	24	68
24	SAT	0	0	1	1	0	1	2	2	2	4	4	3	2	2	2	1	1	1	2	3	2	1	1	2	1.7	24	5
25	SUN	2	3	4	4	4	4	4	6	8	6	7	6	4	3	3	2	2	3	3	3	4	6	5	4	4.1	24	10
26	MON	6	7	5	8	10	9	11	11	5			3	2	2	2	2	1	3	6	8	6	4	3	3	5.2	22	13
27	TUE	3	3	3	3	3	4	9	12	9	6	5	4	3	3	2	2	3	4	6	6	5	8	8	8	5.1	24	16
28	WED	11	11	10	9	8	8	10	11	11	6	4	4	4	3	3	2	2	4	4	6	5	4	4	5	6.2	24	15
29	THU	7	9	10	12	11	11	10	8	6	7	4	3	2	2	1	1	4	3	3	3	3	5	6	6	5.7	24	14
30	FRI	8	8	8	9	9	9	11	12	12	16	17	15	3	2	1	1	1	2	5	5	4	3	6	7	7.2	24	19
MONTHLY MEAN		3	3	4	4	4	4	6	6	6	6	5	5	4	3	3	3	3	4	5	3	3	3	3	3	4.1		
NO. OF DAYS		30	29	29	29	29	30	30	30	30	29	29	30	29	30	29	30	30	30	30	30	30	30	30	30		712	
MAX. HRLY MEAN		11	11	10	12	12	11	13	13	13	20	17	15	15	17	8	11	23	27	39	8	12	9	8	10			

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TABLE 3-11 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis)

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON	2	2	2	2	2	2	2	3	6			3	2	1	1	1	2	1	1	1	1	1	1	1	1.8	22	8
2	TUE	0	1	1	1	1	1	1	1	1	1		1	1	1	1	1	3	1	0	0	0	1	0	4	1.0	23	6
3	WED	3		1	2	1	1	1	2	1	1	1	2	1	1	2	1	1	1	0	1	2	1	1	0	1.2	23	7
4	THU	0	0	1	1	1	1	1	2	4	21	6	2	3	1	1	1	1	1	2	1	1	1	1	1	2.3	24	33
5	FRI	1	1	0	1	1	1	2	3	4	10	6	1	1	1	1	2	3	2	0	1	1	1	1	2	1.9	24	15
6	SAT	1	0	1	1	2	1	1	0	2	2	3	4	1		1	2	0		2	2	1				1.4	19	8
7	SUN					0	0	0	0	0	1	1	1	1	1	1	2	1			2	2	1	3	1	1.0	18	6
8	MON	1	1	1		1	2	3	2	1	1	1					1	1		1	1	1	1	1		1.2	17	5
9	TUE		0	0	0	0	0	1	1	1	1							3	5	3	2	3	3	4	4	1.8	17	18
10	WED	3	2	3	2	2	3	4	3	4	4	6	5	7	13	6	2	4	4	3	2	2	2	2	2	3.7	24	24
11	THU	2	2	2	2	3	5	5	6	5	5	4	3	3	2	2	2	2	2	3	8	7	8	3	2	3.7	24	14
12	FRI	2	1	2	2	2	2	3	3	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2.5	24	6
13	SAT	1	2	2	2	2	3	3	2	2	2	3	3	5	7	6	3	3	3	2	2	3	6	4	3	3.1	24	9
14	SUN	2	1	2	2	2	2	1	1	2	2	1	1	1	2	2	3	1	1	1	1	1	1	1	2	1.5	24	6
15	MON	2	2	2	1	1	4	2	3		10	4	2	6	3	4	4	12	19	15	2	2	2	2	11	5.0	23	35
16	TUE	2	2	7	2	2	5	18	15	7	3	3	7	1	4	4	5	4	3	5	5	6	6	6	7	5.1	24	20
17	WED	7	8	9	10	7	7	9	8	10	9	11	7	7	7	7	8	8	8	8	9	8	8	9	9	8.1	24	21
18	THU	7	7	7	7	8	9	13	13	12	12	10	8	7		7	8	8	7	6	6	7	8	8	8	8.3	23	17
19	FRI	7	6	6	6	6	7	8	10	12	13	14	8	7	12	14	14	14	8	8	8	8	8	10	10	9.4	24	29
20	SAT	9	10	9	9	9	9	10	9	9	13	11	7	6	7	6	7	6	6	6	6	6	7	7	7	7.9	24	21
21	SUN	6	7	5	5	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	8	7	6	6.7	24	10
22	MON	8	9	9	10	9	9	11	14	15		13	7	9	9	8	8	8	8	9	9	9	9	7	7	9.2	23	18
23	TUE	8	8	9	9	9	9	10	12	10	9	3	2	2	2	1	1		1	1	2	2	1	1		5.0	22	14
24	WED	1	1	1	1	2	2	2	2	2	1	1	2		1		1		1	1	2	2	3	3	5	1.8	21	12
25	THU	5	4	7	3	2	7	9	10	5	2	2							2	1	1	1	2	3	3	3.9	18	20
26	FRI	3	7	6	5	5	2	3	3	3	2	2					2	2	2	3	3	3	3	7	8	3.7	20	10
27	SAT	8	7	8	7	6	5	9	7	8	6	6	5	8	6	4			6	10	14	15	7	2	2	7.0	22	22
28	SUN																											
29	MON	3		5	4	4	5	6	7		2				8	5	3	1	1	4	7	5	5	4	3	4.2	19	14
30	TUE	2	1			2	0		2	1					4	6	3	3	3	3	3	3	3	3	2	2.6	17	8
31	WED	3	2	2	2	3	3	5	5	6	5	5	4	3	3	4	3	3	3	3	3	3	4	4	3	3.4	24	7
MONTHLY MEAN		3	3	4	4	3	4	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4.1		
NO. OF DAYS		28	27	28	27	30	30	29	30	28	27	25	24	23	24	25	27	26	27	29	30	30	29	29	27		659	
MAX. HRLY MEAN		9	10	9	10	9	9	18	15	15	21	14	8	9	13	14	14	14	19	15	14	15	9	10	11			

TABLE 3-14 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, JANUARY 1963

DAY OF MONTH	DAY OF WEEK	A M 12	1	2	3	4	5	6	7	8	9	10	11	P M 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	TUE	1	2	2	1	1	1	2	4	6	5	7	10	8	9	5	2	2	3	5	5	3	3	3	2	3.8	24	14
2	WED	2	3	3	4	4	6	20	26	13	13	15	12	3	4	4	16	10	7	7	7	8	10	9	10	8.9	24	65
3	THU	5	6	11	14	10	8	11	13	13	13	10	14	6	7	7	2	5	7	8	8	7	7	10	8	8.7	24	26
4	FRI	10	4	4	3	6	8	14	16	18	15	22	17	9	9	6	4	3	3	3	3	4	3	3	3	7.9	24	33
5	SAT	3	2	2	2	3	4	3	5	7	9	7	7	6	6	8	8	8	8	8	9	9	8	7	6	6.0	24	14
6	SUN	6	5	6	5	5	6	7	7	6	7	7	7	8	5	5	8	6	5	3	4	4	3	3	2	5.4	24	13
7	MON	2	1	2	2	1	1	2	3	5			4	3	3	2	3	3	4	4	4	5	6	4	2	2.9	22	10
8	TUE	2	2	2	2	2	2	3	4	4	4	4	4	4	4	3	2	3	21	18	4	4	3	3	3	4.4	24	37
9	WED	3	1	2	3	5	4	10	22	20	8	4	4		2	2	2	4	15	4	2	4	3	2	20	6.4	23	41
10	THU	14	12	19	28	29	31	34	16	8	6	4	5	15	7	9	5	3	3	2	1	2	2	2	1	10.8	24	43
11	FRI	1	2	1	2	1	3	5	5	4	4	2	3	5	5	5	5	4	3	6	6	4	3	2	2	3.4	24	8
12	SAT	2	1	3	3	2	1	2	1	1	2	1	1	1	1	0	1	1	1	3	3	3	2	2	1	1.7	24	7
13	SUN	1	1	2	1	1	1	1	1	1	3	3	2	2	1	1	1	5	5	3	2	4	4	3	2	2.0	24	6
14	MON	2	4	5	5	4	5	6	10	4	4		2	3	3	2	2	3	4	23	22	4	4	5	3	5.5	23	39
15	TUE	2	4	2	3	3	3	3	4	3	4	5	3	2	7	6	8	9	7	3	1	5	6	10	7	4.5	24	11
16	WED	9	8	8	7	5	5	6	6	8	12	9	12	9	7	5	3	3	4	6	7	3	3	6	4	6.4	24	24
17	THU	4	7	7	7	7	9	10	11	10	13	23	48	19	7	9	2	1	2	5	5	5	4	4	5	9.2	24	68
18	FRI	5	5	6	8	5	5	6	13	17	10	9	5	5	10	7	6	4	4	4	4	8	4	6	6	6.8	24	24
19	SAT	9	8	7	6	5	6	6	6	5	7	7	6	8	6	5	4	4	3	3	3	3	2	6	5	5.4	24	11
20	SUN	3	4	2	2	2	1	2	3	2	3	3	2	2	2	2	1	1	1	1	2	1	1	1	1	1.9	24	6
21	MON	1	0	1	2	3	3	2	3	8	11	5	3	2	2	2	2	3	6	3	4	6	5	4	3	3.4	24	14
22	TUE	2	6	7	3	6	7	8	3	4	4			4	3	4	4	5	4	3	4	5	6	3	3	4.4	22	13
23	WED	4	4	4	4	4	3	3	3	3	3	2	3	4	7	4	2	2	2	3	2	2	5	7	5	3.6	24	9
24	THU	2	1	1	1	2	2	5	5	7	6	6	6	6	5	5	6	6	5	5	4	3	3	3	4	4.1	24	10
25	FRI	4	6	6	6	6	8	12	13	16	18	18	15	7	5	3	6	3	4	4	5	11	2	6	4	7.9	24	44
26	SAT	5	6	6	5	5	10	11	6	4	5	5	5				3	3	5	8	10	9	7	7	6	6.1	21	18
27	SUN	8	6	5	4	4	12	8	3	2	4	4	3	3	2	2	1	1	2	3	3	4	5	5	5	4.0	24	15
28	MON	3	7	7	7	7	8	11	11	11	14				9	7	5	6	3	17	5	5	4	5	5	7.4	21	30
29	TUE	9	6	7	8	8	9	9	11	12	13	9		10	8	11	7	4	4	4	4	3	5	5	10	7.6	23	18
30	WED	10	5	9	7	10	9	7	4	5	6	7	6	5	6	6	6	5	4	5	5	7	7	6	5	6.3	24	14
31	THU	4	4	3	3	3	6	9	12	16	16	12	8	14	8	12	9	7	7	4	3	3	2	3	3	7.0	24	20
MONTHLY MEAN		4	4	5	5	5	6	8	8	8	8	8	8	6	5	5	4	4	5	6	5	5	4	5	5	5.6		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	30	27	28	28	30	30	31	31	31	31	31	31	31	31	31		731	
MAX. HRLY MEAN		14	12	19	28	29	31	34	26	20	18	23	48	19	10	12	16	10	21	23	22	11	10	10	20			

TABLE 3-13 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, DECEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	5	5	8	8	6	10	10	12	13	11	14	17	18	20	16	7	7	9	9	9	10	8	7	6	10.1	24	28
2	SUN	6		4	3	4	5	4	4	9	8	9	12	17	18	15	10	9	9	11	9	7	7	5	5	8.1	24	23
3	MON	5	9	6	7	11	12	9	9	21	22	25	29	20	10	19	9	7	6	9	7	7	6	5	3	11.3	24	33
4	TUE	3	3	3	3	3	4	5	6	7	11	14	17	22	6	1	1	5	4	1	2	5	5	1	1	5.5	24	52
5	WED	1	1	0	1	1	1	1	3	4				2	2	1	1	2	2	2	2	1	2	1	1	1.5	21	13
6	THU	0	1	1	1	1	1	2	2	2	3	3	2	3	2	2	2	2	2	3	4	4	3	3	1	2.1	24	12
7	FRI	2	2	2	1	1	1	2	2	3	2	2	2	2	1	1	1	1	2	2	2	2	2	2	1	1.7	24	4
8	SAT	0	1	1	1	1	2	4	3	2	2	2	2	2	2	2	1	1	1	2	2	3	6	3	2	2.1	24	7
9	SUN	2	3	3	4	4	3	2	1	2	2	2	2	2	2	3	3	2	3	2	1	1	1	1	3	2.2	24	5
10	MON	3	2	3	3	3	3	5	4	3	6		2	2	2	2	2	1	1	2	2	2	2	2	2	2.6	23	12
11	TUE	3	3	3	2	2	2	3	3	4	4	3	3	3	3	3	2	2	2	2	2	3	3	3	4	2.8	24	5
12	WED	4	3	2	3	3	3	4	5	5	5	5	4	4	4	4	4	4	5	4	3	4	10	10	4	4.4	24	12
13	THU	3	3	3	5	6	6	6	7	9	6	4	17	11	14	9	10	5	5	6	6	5	5	5	7	6.8	24	28
14	FRI	6	6	5	7	8	7	7	6	7	6	8	5	5	4	5	4	4	5	6	6	7	6	5	6	6.0	24	11
15	SAT	6	5	5	7	6	6	7	6	6	8		4	5	7	7	6	9	7	9	11	7	7	8	7	6.8	23	16
16	SUN	6	7	7	7	7	7	7	7	4	4	5	4	4	3	3	3	3	3	3	3	3	5	3	4	4.7	24	12
17	MON	3	3	10	7	6	4	6	8	8			8	7	4	5	10	10	12	12	12	9	9	10	7	7.6	22	15
18	TUE	6	6	6	5	6	7	7	12	13	14	14	14	11	8	6	7	6	6	7	8	7	7	7	7	8.2	24	17
19	WED	8	10	9	9	7	7	8	7	5	5	5	5	5	5	4	4	3	6	7	5	6	9	9	9	6.7	24	12
20	THU	6	5	5	3	3	3	4	5	4	4	4	3	3	3	3	3	3	4	4	4	4	4	4	4	3.8	24	7
21	FRI	4	5	6	6	6	7	7	9	10	9	7	8	7	6	6	5	6	6	6	7	5	4	5	9	6.5	24	13
22	SAT	11	11	7	6	8	6	5	9	7	9	9	9	6	7	6	6	6	4	7	3	7	5	4	3	6.6	24	20
23	SUN	3	3	3	4	4	3	2	3	6	4	3	3	4	4	4	3	3	3	3	3	3	4	4	5	3.6	24	8
24	MON	5	5	4	4	4	5	7	9	11			9	11	9	6	8	8	3	3	4	4	3	3	3	5.7	22	19
25	TUE	3	3	4	7	8	9	10	11	13	9	7	5	5	5	5	5	5	5	5	4	4	4	5	4	6.0	24	16
26	WED	4	4	4	4	4	4	4	4	4	2	5	4	3	3	4	3	3	3	5	7	10	9	9	7	4.7	24	15
27	THU	6	6	6	6	10	9	11	13	12	11	9	7	5	5	6	5	7	8	7	4	2	5	5	4	7.1	24	20
28	FRI	3	3	5	6	7	6	9	8	10	13	14	6	6	5	4	4	4	4	6	6	5	5	5	3	6.2	24	21
29	SAT	4	3	4	3	4	6	7	6	6	8	7	4	2	2	3	3	3	2	1	1	2	2	1	2	3.5	24	10
30	SUN	1	1	1	3	3	3	3	3	3	4	5	4	3	3	3	3	3	3	3	3	4	4	6	6	3.2	24	8
31	MON	3	3	2	3	2	2	2	2	2			3	2	2	1	1	1	1	3	2	2	3	2	1	2.1	22	8
MONTHLY MEAN		4	4	4	4	5	5	5	6	7	7	7	7	6	6	5	4	4	4	5	5	5	5	5	4	5.2		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	27	25	30	31	31	31	31	31	31	31	31	31	31	31	31		733	
MAX. HRLY MEAN		11	11	10	9	11	12	11	13	21	22	25	29	22	20	19	10	10	12	12	12	10	10	10	9			

TABLE 3-16 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, MARCH 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	2	2	2	2	2	3	5	5	6	6	5	4	4	6	7	8	7	9	9	10	10	8	6	5	5.6	24	11
2	SAT	4	4	3	2	2	2	2	4	5	8	10	10	9	7	6	5	3	3	2	4	3	3	4	6	4.7	24	12
3	SUN	7	5	5	6	5	5	5	4	8	9	8	5	4	4	3	4	4	3	2	3	5	4	4	4	4.7	24	11
4	MON	5	3	3	7	7	7	10	7	9			4	3	2	2	2	4	9	3	3	3	4	7	8	5.0	22	14
5	TUE	3	3	3	3	3	2	2	5	5	2	3	9	10	5	2	2	1	2	1	1	1	3	3	2	3.2	24	14
6	WED	0	1	1	0	0	0	1	2	1	1	1	2	1	1	1	1	1	0	0	1	1	4	1	0	0.9	24	5
7	THU	1	3	2	1	2	0	1	1	2	3	2	2	2	1	2	0	0	2	2	1	1	3	6	1	1.7	24	10
8	FRI	1	2	1	0	1	3	3	6	5	4	3	2	1	3	1	1	2	2	1	1	1	1	3	4	2.1	24	8
9	SAT	4	4	5	5	3	3	2	2	1	3	2	4	9	4	2	2	2	3	2	2	2	2	1	0	2.8	24	19
10	SUN	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	0	2	2	2	1	0	0.6	24	5
11	MON	0	0	0	0	1	3	8	13	11			7	4	4	4	2	1	3	3	4	2	2	2	1	3.3	22	20
12	TUE	0	1	0	0	0	0	3	6	10	8	8	3	1	1	1	2	6	3	1	2	2	1	1	0	2.5	24	15
13	WED	26	13	1	2	3	3	3	3	1	0	1	1	1	2	2	3	2	3	3	3	4	2	2	2	3.5	24	43
14	THU	3	2	2	2	2	3	4	5	6	6	4	4	5	4	4	3	3	3	3	3	3	3	3	3	3.4	24	6
15	FRI	3	3	3	2	2	2	3	2	2	2	3	3	2	1	4	3	3	3	4	2	3	4	10	4	3.0	24	19
16	SAT	4	4	4	4	4	4	6	7	6	4	3	2	3	3	3	3	2	2	2	2	2	2	1	1	3.2	24	9
17	SUN	1	0	1	0	0	1	0	0	1	2	1	0	0	0	0	0	0	0	0	1	1	1	1	1	0.5	24	7
18	MON	2	1	1	1	1	1	2	3	4	4	3	2				6	3	1	2	1	1	1	1	1	2.0	21	7
19	TUE	1	0	1	3	3	2	3	7	4	3			5	6	3	1	0	0	0	0	0	0	0	0	1.8	22	9
20	WED	0	0	0	0	0	0	0	1	2	1	2	1	2	1	0	1	1	1	0	0	1	1	0	0	0.6	24	4
21	THU	0	0	0	1	0	0	1	3	2	2	2	2	1	1	2	2	1	1	1	1	1	1	1	1	1.2	24	3
22	FRI	1	1	1	2	2	1	2	3	2	2	2	1	1	1	1	1	0	0	0	0	1	2	2	2	1.2	24	4
23	SAT	3	2	2	3	4	3	4	5	6	5	3	3	2	2	2	0	0	0	1	2	1	1	1	2	2.3	24	9
24	SUN	1	1	2	3	3	5	9	10	8	2	2	1	0	0	0	0	0	1	11	9	1	6	9	2	3.6	24	18
25	MON	1	0	0	0	3	1	3	2	2	1	0	0	1	1	7	0	1	9	6	2	0	1	3	7	2.1	24	16
26	TUE	4	8	6	1	0	1	2	1	0	0	0	0	0	0	0	0	0	0			0	0	0	0	1.1	22	15
27	WED	0	0	0	0	1	1	1	7	4	2	2	1	4	1	1	2	1	1	1	6	4	0	1	10	2.0	24	19
28	THU	1	0	0	0	0	2	5	7	7	3	2	2	0	0	2	1	0	0	0	2	1	1	1	2	1.6	24	8
29	FRI	0	1	1	1	3	2	4	5	4	3	11	6	6	0	5	5	2	1	1	19	18	14	2	0	4.8	24	26
30	SAT	1	0	1	0	0	0	1	1	1	1	6	2	2	1	2	5	2	3	2	2	3	2	0	0	1.6	24	13
31	SUN	1	2	0	0	1	2	1	0	1	1	2	1	1	1	1	0	4	4	1	1	0	0	1	1	1.0	24	5
MONTHLY MEAN		3	2	2	2	2	2	3	4	4	3	3	3	3	2	2	2	2	2	2	3	2	3	3	2	2.5		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	29	28	30	30	30	30	31	31	31	30	30	31	31	31	31		733	
MAX. HRLY MEAN		26	13	6	7	7	7	10	13	11	9	11	10	10	7	7	8	7	9	11	19	18	14	10	10			

TABLE 3.15 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, FEBRUARY 1963

DAY	OF	A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	2	2	3	4	4	7	7	7	7	9	13	10	6	4	4	5	5	5	5	5	5	4	5	3	5.4	24	13
2	SAT	3	3	4	2	6	8	4	2	3	2	3	2	2	2	2	2	2	2	2	2	2	2	1	1	2.7	24	14
3	SUN	1	1	0	0	0	1	2	2	2	2	2	2	1	2	2	2	3	2	2	2	3	2	7	8	2.2	24	11
4	MON	11	10	6	6	7	6	6	7	7	6	6			11	12	6	4	4	6	10	10	6	9	8	7.4	22	17
5	TUE	6	8	6	8	7	6	8	10	12	18	14	12	13	11	8	4	2	3	5	6	8	7	7	7	8.1	24	25
6	WED	8	6	8	10	8	8	7	9	10	16	19	17	5	3	3	5	6	3	3	5	5	5	5	5	7.4	24	24
7	THU	4	4	4	4	5	4	5	5	5	5	6	6	6	5	5	4	3	4	4	4	5	6	6	5	4.8	24	10
8	FRI	4	2	2	2	3	2	2	3	3	2	2	1	1	1	2	2	1	2	2	2	3	3	3	3	2.2	24	4
9	SAT	4	4	4	4	5	5	5	5	6	8	13	8	6	4	4	5	5	6	8	9	9	7	9	9	6.3	24	18
10	SUN	9	6	8	5	13	6	5	6	5	4	5	7	6	4	2	3	4	3	3	3	2	2	4	3	4.8	24	18
11	MON	2	2	2	3	2	5	7	7	6				7	5	5	4	4	5	5	3	7	5	4	4	4.4	21	17
12	TUE	4	4	4	4	3	4	5	6	7	6	5	5	3	2	2	3	2	2	2	2	2	3	3	5	3.7	24	10
13	WED	6	5	5	11	1	1	2	3	4	7	4	5	5	4	3	2	3	4	2	3	4	4	8	4	4.2	24	18
14	THU	5	2	2	2	1	1	3	3	2	2	1	1	1	2	2	1	1	1	1	2	2	2	2	1	1.6	24	9
15	FRI	1	1	1	1	2	4	4	4	6	6	5	5	3	2	3	3	1	2	2	2	2	3	4	5	3.0	24	8
16	SAT	7	9	9	7	7	7	6	5	6	6	4	4	16	12	3	2	3	4	3	3	3	4	4	4	5.7	24	32
17	SUN	5	4	4	5	4	12	15	12	10	15	9	4	3	3	3	2	2	2	3	3	4	5	3	2	5.5	24	30
18	MON	2	7	4	4	6	14	11	11	10			4	3	5	3	5	8	2	3	3	5	7	14	5	6.2	22	28
19	TUE	5	4	6	7	8	9	11	10	14	8	7	5	3	2	2	6	4	1	3	4	3	3	3	3	5.5	24	14
20	WED	1	3	4	1	1	4	2	2	3	2	4	4	3	3	2	1	1	1	1	1	1	1	1	2	2.0	24	6
21	THU	2	2	3	4	5	4	3	4	4	3	3	3	3	4	3	3	3	3	2	2	2	2	2	2	2.9	24	9
22	FRI	2	3	8	6	5	5	6	5	4	4	3	4	4	3	2	4	4	5	5	4	4	3	3	3	4.1	24	8
23	SAT	4	4	6	23	23	17	13	9	8	6	8	7	5	8	7	4	4	9	8	9	8	5	15	20	9.6	24	30
24	SUN	4	2	2	2	1	1	1	1	3	3	5	4	5	3	4	5	5	2	1	2	3	2	3	3	2.8	24	9
25	MON	4	3	3	3	4	5	6	5	8			8	5	3	3	3	2	3	3	2	2	2	2	2	3.6	22	12
26	TUE	3	3	3	4	5	6	8	8	10	6	3	3	2	2	2	3	3	2	2	2	3	3	4	4	3.9	24	10
27	WED	4	5	5	4	5	4	7	9	7	5	6	2	3	2	4	3	2	3	4	2	7	5	2	4	4.4	24	13
28	THU	4	4	5	6	4	5	5	8	11	9	15	12	11	7	6	6	8	8	6	3	3	3	3	3	6.4	24	18
MONTHLY MEAN		4	4	4	5	5	6	6	6	6	6	7	6	5	4	4	3	3	3	3	4	4	4	5	5	4.7		
NO. OF DAYS		28	28	28	28	28	28	28	28	28	25	25	26	27	28	28	28	28	28	28	28	28	28	28	28		663	
MAX. HRLY MEAN		11	10	9	23	23	17	15	12	14	18	19	17	16	12	12	6	8	9	8	10	10	7	15	20			

TABLE 3-18 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, MAY 1963

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX
1	WED																											
2	THU																											
3	FRI																											
4	SAT																											
5	SUN																											
6	MON																											
7	TUE																											
8	WED																											
9	THU																											
10	FRI		2	4	10	9	5	1	0	0	0	0	0	0	0	0	0	0								1.9	16	21
11	SAT				0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.0	20	0
12	SUN	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
13	MON	0	0	1	1	1	1	2	2	2			0	0	5	3	3	0	3	0	5	2	0	0	0	1.5	22	21
14	TUE				0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.2	21	1
15	WED	0	0	0	0	0	0	0	0	0	0	0	6	3	4	5	0	0	0	1	3	4	0	0	0	1.1	24	15
16	THU	0	0	0	0	0	0	0	2	0	0	0			0	2	2	3	4	5	0	0	0	0	0	0.8	22	23
17	FRI	0	0	0	0	0	0	2	1	0	1	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0.3	24	6
18	SAT	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0.1	24	9
19	SUN	0	1	0	0	0	0	0	0	0	0	0	0	0	0				0	0	0					0.1	17	1
20	MON																											
21	TUE	0	0	0	0	0	0	3	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	24	9
22	WED	0	0	0	0	0	1	2	3	0	0	0	0	0								0	0	0	0	0.3	17	3
23	THU	0	0	0	2	6	1	3	2	0	0	0	1	0	0	0	0	0	0	0						0.8	19	8
24	FRI					0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	20	8
25	SAT	0	0	0	0	2	0	2	2	0	5	0	0	0	0	1	1		0			0	0	0		0.7	20	18
26	SUN																											
27	MON		0	0	0	0	5	5	0	0							0	0	0	0	0	0	1	0	0	0.7	17	15
28	TUE	0	0	0	0	0	0	0	0	0	1	5	8	2	7	0	8	6	8	12	6	4	12	2	1	3.4	24	38
29	WED	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	1
30	THU	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0.2	24	4
31	FRI	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	2
MONTHLY MEAN			0	0	1	1	1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	1	1	0	0	0.6		
NO. OF DAYS		15	17	17	19	20	19	20	20	20	18	18	18	18	18	17	17	17	18	17	16	17	17	17	16		426	
MAX. HRLY MEAN		1	2	4	10	9	5	5	4	3	5	5	8	3	7	5	8	6	8	12	6	4	12	3	1			

TABLE 3.17 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, APRIL 1963

DAY OF MONTH	DAY OF WEEK	A M 12	1	2	3	4	5	6	7	8	9	10	11	P M 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR.	5-MIN MAX.
1	MON	0	1	1	2	2	2	4	4	6	7	3	1	2	2	2	2	1	1			10	3	1	1	2.6	22	12
2	TUE	0	2	8	5	6	8	11	9	12	2	1	1	1	1	0	0	1	1	3	3	4	3	1	2	3.5	24	27
3	WED	1	2	2	2	3	2	5	4	3	1	1	1	1	1	2	1	1	1	1	1	0	0	0	0	1.6	24	7
4	THU	1	1	1	0	0	1	1	1	1	2	2	2	2	2	2	1	1	1	2	2	2	2	2	1	1.3	24	3
5	FRI	2	4	5	7	7	6	8	6	3	3	1	2	1	0	1	0	0	0	0	0	0	1	1	1	2.5	24	9
6	SAT	1	1	2	3	5	4	2	6	6	4	5	3	2	1	1	2	2	2	2	2	4	3	3	3	2.8	24	8
7	SUN	3	3	2	2	4	4	7	5	5	3	2	2	1	1	0	1	0	1	1	1	2	5	3	1	2.3	24	7
8	MON	1	1	1	1	1	1	3	5	5				3	2	2	1	1	5	5	6	4	2	1	0	2.4	21	7
9	TUE	0	0	2	4	5	4	5	3	3	3	3	3	3	2	1	0	0	3	3	3	3	3	3	3	2.6	24	7
10	WED	3	3	2	2	2	2	2	2	2	2	1	1	1	2	2	1	1	1	1	1	2	2	3	3	1.8	24	3
11	THU	2	3	2	2	2	4	5	5	4	3	3	3	2	1	1	1	1	1	1	1	3	4	3	2	2.4	24	5
12	FRI	1	1	1	2	4	6	8	9	8	8	7	3	1	0	1	1	0	2	0	1	1	1	1	1	2.8	24	16
13	SAT	1	1	2	3	3	2	2	1	1	1	1	0	0	0	0	0	1	0	0	0	1	1	2	1	1.0	24	3
14	SUN	1	1	1	0	1	1	1	2	1	1	0	0	0	0	0	0	0	0	1	2	1	1	1	0	0.7	24	2
15	MON	1	2	2	1	1	1	1	4	8			2	1	1	1	1	1	1	1	1	2	3	4	3	1.9	22	9
16	TUE	4	4	4	4	4	3	4	6	4	4	5	3	3	3	3	3	2	3	2	2	2	1	1	2	3.0	24	7
17	WED	2	2	2	0	1	3	3	2	2	0	0	1	1	1	0	0	0	0	1	1	1	1	0	0	1.0	24	4
18	THU	1	2	1	2	3	3	3	1	1	2	2	1	2	2	1	1	1	1	4	6	15	11	3	4	2.9	24	36
19	FRI	2	11	12	2	1	12	6	14	6	1	1	4	1	1	8	0	0	4	1	1	0	0	0	0	3.8	24	26
20	SAT	0	0	0	0	1	3	1	0	0	1	2	1	1	1	1	1	1	1	0	0	0	1	1	1	0.8	24	4
21	SUN	1	2	2	1	1	1	2	1	1	1	2	1	1	0	0	0	0	0	1	1	1	1	1	1	1.0	24	4
22	MON	0	0	0	0	0	0	0	0	1			1	1	1	1	1	0	0	0	0	0	1	1	2	0.5	22	9
23	TUE	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0.1	24	1
24	WED	1	1	0	0	1	1	3	3	2	1	0	0	0	1	1	1	1	1	0	0	0	0	0	2	0.8	24	4
25	THU	2	2	2	2	2	2	2	3	2	2	1	1	1	1	1	0	0	0	0	0	0	0	0	0	1.1	24	4
26	FRI	0	1	1	3	2	2	2	4	22	9	3	1	1	1	0	0	0	0	0	0	0	2	3	6	2.6	24	51
27	SAT	3	3	3	3	2	3	6	8	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.5	24	9
28	SUN	0	0	0	0	0	0	0	1	2	3	2	5	3	1	1	0	0	0	0	2	1	1	0	0	1.0	24	9
29	MON	0	0	0	0	0	0	0	0	1	3			0	0	0	1	7	6	29	3	0				2.6	19	60
30	TUE																											
MONTHLY MEAN		1	2	2	2	2	3	3	4	4	3	2	2	1	1	1	1	1	1	2	1	2	2	1	1	1.9		
NO. OF DAYS		29	29	29	29	29	29	29	29	29	26	25	27	29	29	29	29	29	29	28	28	29	28	28	28		682	
MAX. HRLY MEAN		4	11	12	7	7	12	11	14	22	9	7	5	3	3	8	3	7	6	29	6	15	11	4	6			

TABLE 3-20 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, JULY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED																											
4	THU	1	0	1	1	1	1	2	3	2	2	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0.8	24	8
5	FRI	0	1	0	0	0	0	1	5	7	7	2	1	0	2	5	2	0	0	0	0	0	0	0	0	1.3	24	9
6	SAT	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	1	0	0.2	24	5
7	SUN	0	0	0	0	0	0	0	0	2	2	1	0	1	1	0	0			0	0	0	0	0	0	0.3	22	2
8	MON	0	0	0	0	0	0	1	1	0			0	0	0	0	0	0	1	0	0	1	3	1	0	0.3	22	6
9	TUE	0	0	0	0	0	0	1	2	2	1	8	13	0	0	0	0	0	0	0	0	0	0	1	0	1.2	24	36
10	WED	0	0	0	0	0	1	3	3	2	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	0.5	24	3
11	THU	1	1	0	0	0	0	1	11	17	3	1	0	1	0	1	0	0	0	0	0	0	0	2	0	1.6	24	24
12	FRI	0	0	0	0	0	0	1	2	2	5	4	0	0	3	5	2	0	1	0	0	0	0	1	1	1.1	24	17
13	SAT	2	2	2	1	0	0	0	0	2	2	0	0	0	5	0	3	0	0	0	0	0	0	0	0	0.8	24	16
14	SUN	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.1	24	4
15	MON	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	2	0	1	1	0	1	0.2	22	4
16	TUE	1	1	1	1	3	1	1	1	3	4	2	3	6	1	5	2	7	3	1	0	0	0	0	3	2.1	24	32
17	WED	11	9	2	8	3	8	3	3	7	0	1	7	1	0	0	0	1	4	3	4	4	0	0	2	3.3	24	21
18	THU	1	0	0	4	4	2	1	1	0	0	1	0	0	0	2	4	0	0	1	6	1	0	2	3	1.3	24	13
19	FRI	1	0	0	2	1	1	1	1	1	1	2	1	1	1	1	0	0	0	0	0	1	0	0	0	0.7	24	4
20	SAT	0	1	0	0	0	0	5	7	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.6	24	11
21	SUN	0	0	0	0	1	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	24	1
22	MON	0	0	0	0	1	1	1	1	1		0	2	0	0	0	0	0	3	5	1	0	0	0	0	0.7	23	10
23	TUE	0	2	2	0	0	0	0	0	4	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	24	8
24	WED	0	0	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	2
25	THU	0	0	0	0	0	0	1	0	4	1	1	2	2	2	3	1	1	0	1	0	0	0	0	0	0.8	24	5
26	FRI	0	0	0	0	9	7	2	0	0	0	0	0	0	1	5	2	4	9	8	9	8	0	0	0	2.7	24	34
27	SAT	2	2	1	0	1	8	1	5	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0.9	24	20
28	SUN	2	4	6	10	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1.1	24	17
29	MON	2	3	1	0	1	0	7	3	0			0	0	0	0	2	0	0	0	0	0	0	0	0	0.9	22	11
30	TUE	1	0	1	1	1	0	3	3	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.7	24	8
31	WED	1	0	1	0	0	0	1	2	6	11	1	6	0	0	0	1	0	0	0	0	0	0	0	0	1.2	24	50
MONTHLY MEAN		1	1	1	1	1	1	1	2	2	2	1	1	1	1	1	1	0	1	1	1	1	0	0	1	0.9		
NO. OF DAYS		28	28	28	28	28	28	28	28	28	24	25	28	28	28	28	28	27	27	28	28	28	28	28	28		663	
MAX. HRLY MEAN		11	9	6	10	9	8	7	11	17	11	8	13	6	5	5	4	7	9	8	9	8	3	2	3			

TABLE 3-19 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, JUNE 1963

DAY	OF	A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	0	0	0	0	0	0	0	0	2	3	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0.4	24	3
2	SUN	0	0	0	0	0	0	0	0	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	24	26
3	MON	0	0	0	0	0	0	0	1	4			0	0	0	0	0	0	0	0	0	0	0	0	5	0.5	22	7
4	TUE	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	5	2	8	2	3	0	0	1.1	24	15
5	WED	0	0	0	0	0	0	1	1	0	1	1	0	0	1	1	0	0	0	0	1	2	1	2	0	0.5	24	10
6	THU	0	0	0	0	0	2	2	8	4	3	3	1	0	0	0	0	1	7	4	0	0	0	3	7	1.9	24	27
7	FRI	5	3	1	2	3	2	1	2	3	4	1	0	2	1	0	0	0	0	1	0	0	1	0	0	1.4	24	11
8	SAT	0	0	0	0	0	0	0	0	3	5	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0.6	24	9
9	SUN	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	24	3
10	MON	0	0	0	0	0	1	2	1	1	0			1	1	1	1	1	1	1	1	0	0	0	2	0.7	22	3
11	TUE	1	4	4	5	1	1	1	0	0	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0.9	24	11
12	WED	0	0	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	24	1
13	THU	0	0	0	0	0	0	0	1	1	1	1	0	3	2	2	1	7	2	1	2	5	4	1	6	1.7	24	28
14	FRI	0	0	0	0	0	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	2
15	SAT	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0.3	24	7
16	SUN	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	3	2	7	3	0.8	24	12
17	MON	2	1	0	0	1	1	2	1	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	22	7
18	TUE	0	0	0	0	0	0	0	1	16	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	24	23
19	WED	0	0	0	0	0	0	1	1	0	10	15	6	1	0	2	1	0	0	0	0	0	0	0	0	1.5	24	39
20	THU	0	0	0	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	7
21	FRI	0	0	0	0	0	0	0	0	0	0	0	0	0	0											0.0	14	0
22	SAT																											
23	SUN																											
24	MON																											
25	TUE	2	2	2	1	2	3	4	5	7	4	6	3	3	2	3	2	2	2	2	2	3	3	3	3	3.0	24	10
26	WED	3	2	2	2	2	2	2	2	5	6	2					7	3	3	4	5	5	5	3	3	3.4	20	9
27	THU	3	3	3	3	2	2	2	3	10	33	23	11	7	11	3	2	3	11	4	2	3	2	3	3	6.3	24	67
28	FRI	3	2	2	2	3	3	3	4	3	3										6	3	5	4	5	3.4	15	12
29	SAT	4	4	4	6	6	9	3	3	6	3	2	2	3	5	4	6	3	2	2	2	3	3	2	2	3.6	24	19
30	SUN	6	4	9	10	5	4	6	5	6	14	14	6	3	3	3	3	2	2	2	2	2	2	3	2	4.9	24	20
MONTHLY MEAN		1	1	1	1	1	1	1	2	3	4	3	1	1	1	1	1	1	2	1	1	1	1	1	2	1.5		
NO. OF DAYS		27	27	27	27	27	27	27	27	27	25	23	24	25	25	24	25	25	25	25	26	26	26	26	26		619	
MAX. HRLY MEAN		6	4	9	10	6	9	6	8	16	33	23	11	7	11	4	7	7	11	4	8	5	5	7	7			

TABLE 3-22 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis)

CINCINNATI, SEPTEMBER 1963

DAY	OF	A M												P M												DAILY MEAN	NO. OF HR.	1-HR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	0	0	0	0	1	1	1	2	5	5	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0.9	24	6
2	MON	0	0	0	0	0	0	1	1	1		5	12	9	6	4	7	8	1	0	0	0	0	0	0	2.4	23	26
3	TUE	1	4	10	10	6	8	3	2	2	0	0	0	1	1	1	2	1	0	0	1	0	0	0	0	2.2	24	17
4	WED	0	0	1	1	2	2	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0.4	24	3
5	THU	0	1	2	2	1	2	2	2	3	4	3	2	1	1	0	0	0	0	1	1	1	2	3	2	1.5	24	5
6	FRI	1	0	0	0	0	0	2	4	6	5	2	3	2	2	1	1	2	1	0	1	0	1	1	2	1.5	24	8
7	SAT	2	1	2	2	2	2	0	2	5	9	8	0	0	0	0	1	3	2	2	1	1	1	1	1	1.9	24	14
8	SUN	1	0	1	1	1	0	0	0	1	4	2	0	1	1	1	0	2	2	0	0	0	0	0	0	0.8	24	5
9	MON	2	2	1	0	0	0	1	1	4									0	0	0	1	1	1	1	0.8	16	5
10	TUE	1	1	1	1	1	1	2	4	5	5	5	3	2	0	1	0	0	0	0	0	0	0	0	0	1.3	24	8
11	WED	0	0	0	0	0	1	1	4	3	2	5	4	0	1	0	0	8	2	2	12	23	9	4	2	3.4	24	33
12	THU	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	24	2
13	FRI	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	2
14	SAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	0
15	SUN																											
16	MON																											
17	TUE	0	0	0	0	0	1	1	2	4	4	3	5	2	1	0	0	1	1	0	0	0	0	0	1	1.1	24	5
18	WED	2	1	1	1	1	1	1	2	5				2	5	4	3	1	2	0	0	0	0	0	0	1.5	21	7
19	THU	0	0	0	1	0	0	0	2	2	6	5	3	1	0	0	0	0	3	1	0	2	3	4	2	1.4	24	14
20	FRI	2	3	8	2	1	2	4	6	7	6	2	1	1	0	1	1	1	0	0	0	0	0	1	0	2.0	24	12
21	SAT	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	24	1
22	SUN	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	2
23	MON	0	0	1	1	1	1	2	3	3	3			0	0	0	0	0	0	0	1	1	1	1	0	0.8	22	3
24	TUE	1	1	1	1	2	2	2	5	4	1	0	0	1	0	1	2	2	4	5	1	1	2	1	3	1.7	24	9
25	WED	2	3	4	4	2	2	1	2	4	8	14	16	4	2	3	1	5	10	0	0	1	1	1	1	3.8	24	26
26	THU																											
27	FRI	1	0	0	0	0	0	0	0	0	8	10	4	2	1	1	2	1	1	0	0	0	1	1	1	1.3	24	12
28	SAT	1	1	1	3	5	2	2	3	5	7	10	4	3	5	4	1	2	1	0	0	1	2	1	1	2.6	24	16
29	SUN	1	1	2	0	0	0	2	4	5	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0.8	24	6
30	MON	0	0	0	0	0	0	0	3	5			1	1	0	0	0	0	0	1	3	3	5	5	4	1.4	22	5
MONTHLY MEAN		1	1	1	1	1	1	1	2	3	3	3	3	1	1	1	1	1	1	0	1	1	1	1	1	1.3		
NO. OF DAYS		27	27	27	27	27	27	27	27	27	23	23	24	26	26	26	26	26	27	27	27	27	27	27	27		632	
MAX. HRLY MEAN		2	4	10	10	6	8	4	6	7	9	14	16	9	6	4	7	8	10	5	12	23	9	5	4			

TABLE 3-21 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, AUGUST 1963

DAY OF		A M												P M												DAILY [illegible]	NO. OF [illegible]	1-HR [illegible]
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	2
2	FRI	0	0	0	0	0	0	0	0	1	3	4	1	0	0	1	1	3	5	0	0	0	0	0	0	0.8	24	22
3	SAT	0	0	0	2	4	3	3	3	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	24	6
4	SUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	1
5	MON	0	0	1	0	0	0	1	2	2			0	0	0	0	0	0	0	0	0	0	1	0	1	0.3	22	2
6	TUE	0	0	0	0	0	0	0	1	5	1	2	3	3	1	0	1	0	0	0	0	0	0	0	0	0.7	24	14
7	WED	0	0	2	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	13
8	THU	0	0	0	0	0	0	0	1	0	0	0	0	0	0								0	0		0.0	16	1
9	FRI																											
10	SAT																											
11	SUN	0	0	0	0	0	0	0	1	5	5	3	1	0	1	3	2	0	0	0	0	0	1	1	1	1.0	24	16
12	MON	0	0	0	0	0	0	1	3	7		3	3	3	1	0	0	3	4	1	0	1	2	2	2	1.5	23	18
13	TUE	1	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	5
14	WED	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	1
15	THU	0	0	0	0	1	0	1	2	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	24	2
16	FRI	0	0	0	0	0	0	0	3	9	5	0	0	1	2	1	0	5	5	3	0	1	1	0	0	1.6	24	39
17	SAT	1	2	4	4	3	1	4	1	1	1	1	1	1	1			0								1.7	15	12
18	SUN																											
19	MON		1	6	10	2	2	1	0	0			1	0	0	0	4	3	2	1	1	1	1	0	0	1.7	21	19
20	TUE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	24	2
21	WED	0	0	0	0	0	0	1	1	6	6	5	2	4	3	1	0	0	1	0	0	0	0	1	0	1.2	24	24
22	THU	0	0	0	0	0	0	1	1	5	5	42	10	1	2	5	1	1	1	1	0	0	0	0	0	3.1	24	99
23	FRI	0	0	0	0	0	0	0	1	2	10	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0.8	24	16
24	SAT	0	0	0	0	0	0	0	0	0	0	1	3	2	3	2	3	2	1	0	0	0	0	0	0	0.7	24	6
25	SUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0.1	24	1
26	MON	1	0	0	0	1	2	1	2	2		2	1	0	0	0	0	0	4	0	0	0	1	1	1	0.8	23	21
27	TUE	1	1	2	1	2	2	2	3	3	5						1	1	1	1	1	1	1	1	1	1.6	19	5
28	WED	1	1	1	1	1	1	1	2	3	4	11	5	2	2	1	0	4	17	9	6	1	0	12	9	3.9	24	39
29	THU	10	2	1	0	0	1	3	2	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1.0	24	13
30	FRI	0	0	0	0	0	1	1	3	3	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.4	24	3
31	SAT	1	1	1	1	1	1	1	2	2	1	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0.6	24	20
MONTHLY MEAN		1	0	1	1	1	1	1	1	2	2	3	1	1	1	1	1	1	2	1	0	0	0	1	1	0.9		
NO. OF DAYS		27	28	28	28	28	28	28	28	28	24	24	27	27	27	25	26	27	26	26	26	26	27	27	26		662	
MAX. HRLY MEAN		10	2	6	10	4	3	4	3	9	10	42	10	4	3	5	4	5	17	9	6	1	2	12	9			

TABLE 3-24 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, NOVEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	0	0	0	0	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	1	1	0.7	24	2
2	SAT	1	2	3	2	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	2	2	2	2	2	1.4	24	4
3	SUN	2	2	3	3	3	4	5	5	5	10	7	1	4	5	5	7	7	5	3	6	6	7	3	6	4.6	24	16
4	MON	4	4	4	5	6	3	7	15	30			4	4	6	19	9	7	2	3	3	3	5	3	2	6.5	22	38
5	TUE	2	2	2	2	2	2	2	3	3	7	18	8	17	11	11	7	2	2	2	2	1	1	2	7	5.0	24	25
6	WED	2	1	1	1	1	1	3	4	3	3	3	2	2	2	2	1	1	1	1	1	1	1	1	1	1.7	24	4
7	THU	1	1	2	2	3	3	2	3	3	2	2	2	2		2	2	1	1	2	2	2	2	1	1	1.9	23	3
8	FRI	1	1	1	1	2	2	2	2	2	4	3	2	2	1	1	1	0	1	1	2	3	2	2	2	1.7	24	4
9	SAT	2	2	3	3	3	3	4	4	6	8	8	20	10	3	2	10	4	3	2	3	3	4	4	4	4.9	24	55
10	SUN	4	4	4	4	3	4	4	5	5	6	5	7	4	3	4	6	4	2	2	3	3	2	2	2	3.8	24	13
11	MON	2	2	2	2	2	2	2	4		5	2	2	1	1	1	1			1	1	1	1	1	2	1.8	21	6
12	TUE	4	4	4	3	3	3	4	7	6	7		4	3	2	2	2	1	1	2	2	2	1	1	2	3.0	23	7
13	WED	5	4	4	4	4	4	5	6	5	4	2	2	1	1	2	2	2	2	2	2	2	1	1	1	2.8	24	6
14	THU	1	2	1	1	1	1	2	2	3	3	3	3	2	2	2.	2	2	2	2	2	2	2	2	2	2.0	24	4
15	FRI	6	6	7	7	8	6	5	6	4	4	4	4	2	3	2	2	2	1	16	9	8	17	18	13	6.7	24	16
16	SAT	9	10	7	11	6	10	4	4	13	6	6	6	2	2	1	2	7	6	2	2	2	3	6	3	5.5	24	22
17	SUN	11	30	17	11	13	22	23	22	16	7	2	1	1	1	1	1	3	2	7	14	7	1	8	5	9.4	24	95
18	MON	1	1	1	1	1	1	1	3	7		4	3	2	3	2	1	1	2	2	3	3	3	2	2	2.2	23	11
19	TUE	2	2	2	2	2	2	4	10	11	7	7	8	5	4	10	23	18	13	7	6	3	3	1	1	6.4	24	29
20	WED	1	1	1	1	3	3	5	9	8	7	6	5	3	3	1	2	1	1	1	1	8	1	2	3	3.2	24	14
21	THU	4	1	0	0	0	1	1	1	6	8	10		1	3	6	1	1	1	1	1	1	1	1	1	2.2	23	11
22	FRI	1	1	1	1	1	1	1	3	4	3	3	3	1	2	2	2	2	2	1	0	9	1	0	8	2.2	24	18
23	SAT	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0.6	24	9
24	SUN	1	1	1	1	1	1	1	1	1	1	3	4	7	2	2	3	4	5	6	6	6	6	4	4	3.0	24	10
25	MON	4	4	2	2	2	2	2	1	1	3	4	8	5	9	11	11	10	15	6	2	2	8	5	4	5.1	24	18
26	TUE	3	3	4	3	3	6	22	13			3	2	2	2	2	1	1	2	5	3	2	2	1	1	3.9	22	24
27	WED	1	2	3	5	3	3	3	3	7	6	4	3	3	3	2	1	1	1	1	1	2	1	1	3	2.7	24	10
28	THU	3	3	3	3	5	2	2	2	2	10	6	6	8	4	2	2	2	4	5	4	2	2	2	2	3.5	24	19
29	FRI	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1.8	24	2
30	SAT	2	2	2	2	2	2	2	2	3	4	2	2	2	2	2	2	2	2	2	3	4	4	4	2	2.4	24	9
MONTHLY MEAN		3	3	3	3	3	3	4	5	6	5	4	4	3	3	3	4	3	3	3	3	3	3	3	3	3.4		
NO. OF DAYS		30	30	30	30	30	30	30	30	28	27	28	29	30	29	30	30	29	29	30	30	30	30	30	30		709	
MAX. HRLY MEAN		11	30	17	11	13	22	23	22	30	10	18	20	17	11	19	23	18	15	16	14	9	17	18	13			

TABLE 3-23 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, OCTOBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE																											
2	WED											1	1	0	0	1	1	1	1	1	1	1	1	0	0	0.7	14	2
3	THU	0	0	0	1	1	1	1	4	3	1	1	0	0	0	0	0	0	0	0	0	2	2	3	4	1.0	24	4
4	FRI	5	5	2	3	4	5	5	6	6	5	3	10	16	7	4	2	2	1	1	0	2	2	2	1	4.1	24	28
5	SAT	1	2	2	2	2	2	2	2	4	5	5	2	2	2	3	4	2	0	1	1	1	1	1	1	2.1	24	9
6	SUN	1	1	1	1	1	1	1	1	1	7	13	9	1	1	1	1	2	1	1	0	0	0	0	4	2.1	24	25
7	MON	7	9	14	5		6	5	10	6		0	0	0	0	1	2	1	1	1	1	2	4	2	1	3.5	22	15
8	TUE	3	4	3	2	1	2	2	2	4	3	2	2	2	2	2	1	0	0	0	0	1	4	4	2	2.0	24	5
9	WED	2	2	2	2	2	2	3	5	6	6	5	3	2	2	3	2	1	1	1	1	2	3	3	2	2.6	24	7
10	THU	2	1	1	1	1	1	1	2	2	4	5	2	1	1	4	2	3	1	1	1	1	1	1	1	1.8	24	15
11	FRI	1	1	1	1	1	3	8	8	6	3	3	5	5	3	1	1	1	1	1	1	1	1	1	1	2.4	24	10
12	SAT	2	2	2	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	24	2
13	SUN	0	0	0	0	1	1	2	2	2	2	2	1	1	1	1	0	0	0	0	0	0	1	2	2	0.8	24	2
14	MON	3	3	4	3	4	3	4	6	10			3	1	1	2	5	2	1	1	2	4	4	3	3	3.3	22	10
15	TUE	2	2	2	1	1	1	7	4	3	4	7	8	2	6	1	1	1	3	1	1	1	1	1	1	2.7	24	21
16	WED	1	1	1	1	1	1	1	3	5	7	13	8	9	1	4	0	0	0	0	1	1	1	1	1	2.6	24	16
17	THU	1	1	1	1	1	1	1	2	4	7	42	4	1	1	0	0	1	3	0	0	0	0	1	1	3.1	24	75
18	FRI	0	0	1	1	1	0	0	1	4	6	17	18	1	0	0	1	0	0	0	0	0	1	1	1	2.3	24	82
19	SAT	0	0	0	1	1	0	0	1	2	2	10	12	1	2	1	0	0	0	0	0	0	0	0	1	1.4	24	20
20	SUN	7	2	0	0	0	0	0	0	0	0	2	2	0	0	0	1	0	0	0	0	0	0	0	0	0.6	24	10
21	MON	0	0	0	1	1	1	2	2	3			3	2	2	0	0	0	0	0	1	2	2	1	1	1.1	22	4
22	TUE	2	1	2	2	1	1	2	1	1	2	2	3	9	5	1	1	0	2	4	2	2	2	2	1	2.1	24	17
23	WED	1	1	1	0	0	0	0	0	2	2	6	10	4	1	1	0									1.8	16	17
24	THU										2	10	3	3	2	5	4	3	1	1	1	1	1	1	1	2.6	15	12
25	FRI	1	1	1	1	0	0	0	1	2	4	8	5	2	0	0	0	0	0	0	0	0	0	0	1	1.1	24	11
26	SAT	0	0	0	0	0	0	0	0	2	2	6	5	3	2	0	1	0	0	0	0	0	0	0	0	0.9	24	9
27	SUN																											
28	MON												1	0	0	0	0	0	0	1	1	2	2	1	1	0.6	13	2
29	TUE	0	0	0	0	0	0	2	2	2	2	1	0	0	0	1	0	0	0	0	1	1	1	1	1	0.6	24	2
30	WED	1	0	0	0	0	0	0	1	3	3	4	2	0	0	0	1	0	0	2	4	3	6	8	14	2.2	24	31
31	THU	16	4	4	4	3	3	3	3	4	11	4	4	2	0	2	14	19	16	22	3	1	4	6	0	6.3	24	66
MONTHLY MEAN		2	2	2	1	1	1	2	3	3	4	7	4	2	2	1	2	1	1	1	1	1	2	2	2	2.1		
NO. OF DAYS		26	26	26	26	25	26	26	26	26	24	26	29	29	29	29	29	28	28	28	28	28	28	28	28		652	
MAX. HRLY MEAN		16	9	14	5	4	8	8	10	10	11	42	18	16	7	5	14	19	16	22	4	4	6	8	14			

TABLE 3-26 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, JANUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED	0	0	0	0	0	0	0	0	0	0	0	0	0	2		2	2	5	5	4	3	2	2	2	1.4	23	6
4	THU	2	1	1	1	1	1	1	2	4	7								5	14	13	24	38	22	15	8.8	17	42
5	FRI																											
6	SAT																											
7	SUN																											
8	MON	1	1	0	0	0	0	1	1	1	1	1	1	2	2											0.8	14	2
9	TUE																											
10	WED	1	0	0	0	1	1	2	2	3	3	2	2	2	1		2	2	2	3	2	2	2	2	2	1.7	23	3
11	THU	2	3	2	2	2	3	5	7	7	7	5	5	4	4		4	3	3	3	3	3	2	2	2	3.5	23	8
12	FRI	3	2	2	2	3	4	6	9	13	8	6	3	3	2		2	4	4	6	5	4	4			4.4	21	15
13	SAT																											
14	SUN																											
15	MON	6	8	7	5	3	1	1	3	3	0	0							2	3	2	2	1	1	1	2.7	18	9
16	TUE	1	1	1	1	1	1	2				6	4	5					4	5	4	5	4	4	3	2.8	17	7
17	WED	2	1	1	1	1	1	3	5		8	6	5	4	3		4	5	6	6	6	6	5	5	7	4.1	22	9
18	THU	9	8	5	4	1	1	3	8	10	8	3	3	4	3		5	5	1	0	0	0				4.1	20	11
19	FRI																											
20	SAT	2	2	2	2	4	4	4	4	7	8	10	9	7	7			5	5	4	4	6	6	6	8	5.3	22	10
21	SUN	7	5	5	5	3	2	2	3	5	7	6	6	6	7			4	4	6	8	8	7	6	6	5.3	22	9
22	MON	4	5	2	1	1	1	1	2	1		5	7	7	7	4										3.4	14	7
23	TUE																											
24	WED	8	7	3	2	2	3	4	9									1	4	7	5	4	2	2	2	4.0	16	11
25	THU	1	1	2	1	0	0	3	4	9	6	5						6	9	6	10	21	27	32	33	9.3	19	42
26	FRI	22	16	11	6	9	5	7	10	19	11	8	5	3	2			2	5	6	2	2	3	3	2	7.2	22	23
27	SAT	1	2	2	2	1	1	2	2	3	4	4	4	4	3		1	2	3	3	4	4	3	3	1	2.5	23	5
28	SUN	2	2	2	1	1	1	1	2	2	2	2	2	1	1		1	2	2	4	5	4	5	6	9	2.6	23	10
29	MON	8	6	5	3	4	4	4	4	5	7	7	6	4	3				5	4	4	2	2	2	2	4.4	21	9
30	TUE	1	1	1	1	1	1	2	3	6	5								3	1	0	0	0	0	0	1.5	17	7
31	WED	0	0	0	0	1	1	2	4	5				3	3		3	3	3	3	6	4	3	3	3	2.5	20	8
MONTHLY MEAN		4	3	3	2	2	2	3	4	6	5	4		4					4	5	5	5	6	6	6	3.9		
NO. OF DAYS		21	21	21	21	21	21	21	20	16	17	17	15	16	15	1	9	14	19	19	19	19	18	17	17		417	
MAX. HRLY MEAN		22	16	11	6	9	5	7	10	19	11	10	9	7	7	4	5	6	9	14	13	24	38	32	33			

TABLE 3-25 HOURLY AVERAGES OF SULFUR DIOXIDE, pphm (conductometric analysis) CINCINNATI, DECEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	2	1	1	2	3	3	3	2	2	2	2	2	1	1	1	2	2	3	3	3	3	3	3	3	2.2	24	4
2	MON	2	2	2	2	3	3	3	4	4			2	4	4	2	2	3	2	2	2	2	1	1	1	2.5	22	6
3	TUE	1	1	1	1	2	2	2	2	2	2	4	2	4	7	5	3	3	1	1	1	1	1	1	2	2.2	24	9
4	WED	2	2	2	1	1	1	2	4	3						6	2	1	2	1	1	1	1	1	1	1.9	19	7
5	THU	2	2	1	1	1	1	2	1	1	1	2	1	2	1	2	2	2	2	2	2	2	3	1	1	1.5	24	3
6	FRI	3	4	2	9	8	7	4	8	7	5	2	3	3	3	5	8	7	2	2	3	4	4	12	9	5.0	24	20
7	SAT	12	8	7	8	9	11	11	13	6	13	5	2	3	9	3	6	5	2	1	1	1	1	1	2	5.8	24	18
8	SUN	2	2	2	2	2	14	11	2	2	2	0	1	1	1	1	0	0	1	1	1	1	1	1	1	2.1	24	19
9	MON	0	2	1	1	1	0	0	1	1			1	1	2	2	1	0	0	0	2	2	2	2	2	1.1	22	11
10	TUE	2	2	2	2	2	3	5	2	2	6	2	2	4	2	2	3	8	7	3	2	2	2	2	2	2.9	24	10
11	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	3	2.0	24	4
12	THU																											
13	FRI																											
14	SAT	2	2	2	1	1	1	1	1	1	2	3	4	4	3	3	2	2	2	2	2	2	2	2	2	2.0	24	7
15	SUN	2	2	3	3	3	4	5	4	3	3	5	3	3	3	3	3	2	2	2	3	4	4	3	3	3.2	24	6
16	MON	4	4	4	4	4	4	4	6	7			12	12	9	8	4	4	7	4	3	3	4	4	3	5.4	22	16
17	TUE	4	4	5	5	7	9	9	10	12	12	9	18	14	11	9	7	4	3	3	3	4	7	3	3	7.2	24	28
18	WED	3	2	5	4	4	4	3	3	3	3	3		3	2	2	2	2	2	2	2	2	2	2	5	2.8	23	7
19	THU	7	5	7	7	7	5	4	4	5	5	5	4	3	4	3	2	3	3	3	3	3	3	3	4	4.2	24	7
20	FRI	4	3	3	3	3	4	4	6	7	10	12	9	7	5	4	4	4	5	4	4	4	5	6	7	5.2	24	14
21	SAT	7	5	5	4	3	5	6	6	6	6	6	8	9	9	7	7	7	7	6	11	10	11	13	9	7.2	24	14
22	SUN	6	4	3	3	3	3	3	4	4	5	4	4	6	5	5	4	3	3	3	3	3	3	4	6	3.9	24	7
23	MON	6	10	9	7	6	6	8	9	10			8	8	10	10	7	7	7	7	8	7	6	6	5	7.6	22	17
24	TUE	4	4	3	7	7	4	4	6	9	7	7	5	4	3	4	5	7	6	6	5	4	3	3	3	5.0	24	10
25	WED	3	3	3	3	2	2	3	4	4	5	5	5	5	6	6	9	8	13	12	8	9	12	10	12	6.4	24	20
26	THU	12	10	10	9	4	4	4	5	5	4		5	5	4	5	5	2	2	2	2	4	7	3	2	5.0	23	17
27	FRI	2	1	1	1	1	1	2	2	4	2	3	3	2	2	8	5	2	3	2	2	2	2	2	2	2.3	24	10
28	SAT	2	1	1	1	1	1	1	1	1	1	2	3	2	2	2	3	2	2	5	9	10	8	6	5	3.1	24	11
29	SUN	8	6	4	2	2	2	4	4	3	3	3	4	4	3	3	2	2	3	3	3	4	4	4	4	3.5	24	12
30	MON	4	4	4	4	4	4	6	6	9		15	12	14	12	9	7	4	4	5	5	6	6	4	3	6.6	23	18
31	TUE	3	3	3	3	5	6	8	9	9	9	7	7	7	6	6	5	5	6	6	6	7	7	7	8	6.1	24	10
MONTHLY MEAN		4	4	3	4	3	4	4	5	5	5	5	5	5	5	4	4	4	4	3	4	4	4	4	4	4.0		
NO. OF DAYS		29	29	29	29	29	29	29	29	29	23	23	27	28	28	29	29	29	29	29	29	29	29	29	29		680	
MAX. HRLY MEAN		12	10	10	9	9	14	11	13	12	13	15	18	14	12	10	9	8	13	12	11	10	12	13	12			

TABLE 3-28 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, MARCH 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	1	1	0	0	0	0	0	1	3	3	2	3	2	2		3	3	4	3	2	3	2	2	2	1.8	23	5
2	FRI	1	1	1	0	0	1	2	3	4	4	2	2	2	2		2	2	4	4	3	3	3	3	2	2.2	23	5
3	SAT	3	3	2	2	1	1	2	3	3	3	3	3	3	2		2	2	3	3	2	4	2	2	2	2.4	23	5
4	SUN	1	1	1	1	1							3	3	3		4	4	4	5	8	9	8	8	7	4.1	17	10
5	MON	5	4	4					3	3	3	3	3	3	3		3	3	4	3						3.2	14	6
6	TUE								4	5	4	3	3	3	3		3	4	5	3	2	2	2	2	2	3.1	16	5
7	WED	2					1	2	4	5	4	4	3	3	3		2	3	4	3	3	3	2	1	1	2.9	19	6
8	THU	1	0	0	0	0	1	2	4	9	6	2		1	1		2	2	4	4	3	3	2	1	1	2.1	22	10
9	FRI	1	0	1	0	0	0	2	6	7	8	7	5	4	4		4	4	5	4	3	3	4	2	3	3.4	23	9
10	SAT	2	1	2	2	1	2	2	3	4	3	3	3	3	2			2	1	2	2	3	3	2	3	2.3	22	4
11	SUN	2	2	2	1	1	1	1	2	2	3	3	3	2	2			2	2	2	2	2	1	2	1	1.9	22	4
12	MON	0	1	1	1	1	1	2	5	5	1	1	1	1	1		1	2	1	1	1	1	1	1	0	1.4	23	7
13	TUE	0	0	0	0	0	0	1	1	1	2	1	1	1	1		1	1	1	1	1	0	0	0	0	0.6	23	2
14	WED	0	0	0	0	0	0	0	1	1	1	2	2	2	2		2	3	3	2	2	1	1	2	2	1.2	23	4
15	THU	1	1	1	1	1	1	2	5	6	4	3	4	4	3		2	4	4	3	3	3	4	9		3.1	22	11
16	FRI	12	8	8	10	8	7	7	9	9	8	4	2	1	1		2	2	3	2	1	1	1	2	2	4.8	23	13
17	SAT	1	1	1	1	1	1	1	1	2	1	1	1	1	1		1	1	2	2	2	1	2	3	3	1.3	23	4
18	SUN	7	8	6	5	5	4	4	5	5	4	2	1	1	1		1	1	1	1	2	2	5	7	5	3.6	23	9
19	MON	2	1	1	1	1	1	2	4	3	5	1	1	1	1		0	0	1	0	1	0	1	1	0	1.3	23	7
20	TUE	0	0	0	0	0	0	3	4	4	2	2	2	2	1		1	1	2	2	1	2	1	1	1	1.4	23	6
21	WED	1	0	0	0	0	1	2	4	5	5				1				4	3	2	1	2	1	1	1.9	18	7
22	THU	1	0	0	0	0	0	1	3	4	3	3	2	2	2		4	5	5	4	4	3	3	4	4	2.5	23	7
23	FRI	3	2	2	2	1	2	3	5	5	4						2	4	6	3	3	4	9	10	9	4.2	19	12
24	SAT	16	19	24	17	6	13	7	9	14	8	4	2	1	1		0	1	0	0	1	2	1	1	1	6.3	23	26
25	SUN	1	1	1	1	0	0	0	0	1	1	1	1	0	1			1	1	1	1	1	2	2		0.9	22	2
26	MON	1							5	6	4	3	2	4	2				2	1	1	2	2	3	2	2.7	15	7
27	TUE	3	4	5	5	6	5	9	11	11	11	5	3	1	1		1	1	2	1	2	4	11	10	10	5.3	23	14
28	WED	12	11	9	7	7	8						1	1	1		1	1	2	2	2	2	2	1	2	4.1	18	14
29	THU	3	1	0	1	1	1	2	5	6	3	1	1	1	0		1	1	2	1	3	1	1	1	1	1.6	23	8
30	FRI	1	0	0	0	0	0	2	3	5	5	5	5	4	4		4	5	6	5	6	4	4	5	6	3.3	23	7
31	SAT	4	3	3	1	1	1	2	5	6	5	5	5	4	3		2	2	3	2	3	6	3	1	3	3.1	23	8
MONTHLY MEAN		3	3	3	2	2	2	2	4	5	4	3	2	2	2		2	2	3	2	2	3	3	3	3	2.7		
NO. OF DAYS		30	28	28	27	27	27	26	29	29	29	27	28	29	30		26	29	31	31	30	30	30	30	29		660	
MAX. HRLY MEAN		16	19	24	17	8	13	9	11	14	11	7	5	4	4		4	5	6	5	8	9	11	10	10			

TABLE 3.27 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, FEBRUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	3	2	2	2	2	3	6	8	8	9	6	4	4	5		4	8	9	6	6	7	5	3	4	5.1	23	10
2	FRI	4	3	4	5	5	6	9	17	23	21			5	3		3	4	5	5	4	5	4	4	4	6.8	21	23
3	SAT	5	5	3	2	2	2	4	6	7	6	3	2	1	2		1	1	3	11	23	30	26	33	39	9.5	23	46
4	SUN	32	29	22	22	17	15	15	11	14	10	9	5	2	1			0	0	3	3	2	1	1	1	9.7	22	35
5	MON	0	0	0	0	0	0	1	1	3	2						2	2	2	1	1	1	1	1	1	1.0	19	3
6	TUE	0	0	0	1	0	0	1	3	4	3	2	2				1	2	3	2	2	2	2	2	2	1.6	21	5
7	WED	1	1	1	1	1	2	3	6	9	7	3	3	3	2					7	5	4	5	6	3	3.6	20	10
8	THU	2	2	2	2	2	2	2	3	5	5	6	5	3	3				4	4	3	2	2	2	3	3.1	21	7
9	FRI	2	1	1	1	0	0	0	2	3	4	3	4	3	4		4	5	5	4	2	3	3	4	4	2.7	23	6
10	SAT	2	2	3	3	2	1	1	1	2	3	2	2	2			2	2	3	3	3	3	2	2	3	2.3	22	5
11	SUN	2	2	2	2	1	1	2	2	[illegible]	3	3	3	3	3		3	3	4	4	3	7	5	4	5	3.0	23	7
12	MON	5	4	4	2	6	4	6	6	5	4	3	3	3	2				5	3	2	1	1	1	1	3.6	21	12
13	TUE	0	0	0	0	0	1	2	3	5	4	4	3	3	2		1		5	4	4	5	6	7	5	2.9	22	10
14	WED	1	0	0	0	0	0	0	1	1		1	1		3		2	3	3	3	1	1	1	3	2	1.3	21	4
15	THU	1	1	0	0	0	0	2	6	5	3	3	3	2	1		2	2	2	2	2	2	2	1	1	1.8	23	7
16	FRI	1	1	1	0	1	2	3	4	6	6	3	2	1	1			2	2	3	3	2	2	1	1	2.1	22	8
17	SAT	1	1	1	[illegible]	0	0	1	1	2	1	1	1	2	1		1	2	1	2	2	2	2	1	1	1.2	23	2
18	SUN	1	0	1	[illegible]	0	0	0	0	1	1	1	2	3	4		4	5	6	7	6	8	9	9	4	3.1	23	12
19	MON	2	1	1	2	1	1	1	5	5	2	2	2	1	1			1	2	1	1	1	0	0	0	1.5	22	9
20	TUE	1	0	[illegible]	[illegible]	0	0	1	1	2	1	1						2	3	2	3	5	6	5	7	2.0	19	11
21	WED	3	2	1	[illegible]	1	1	2	3	3	3	2	2	2	1		2	2	3	3	3	3	1	1	1	2.1	23	8
22	THU	1	0	[illegible]	[illegible]	0	0	1	1	[illegible]	3	3	3	2	1		1	2	1	1	2	3	2	2	1	1.4	23	5
23	FRI	1	1	[illegible]	[illegible]	0	0	1	3	[illegible]	3	3		4	3		3	4	3	2	1	1			1	1.9	20	5
24	SAT	1	1	1	[illegible]	0	0	1	1	1	2	2	2	3	4		3	2	1	2	2	4	1	2	2	1.6	23	6
25	SUN	1	0	1	1	1	0	1	1	2	2	2	2	1	2		1	1	2	4	5	2	1	1	1	1.5	23	5
26	MON	1	0	[illegible]	[illegible]	[illegible]	1	2	[illegible]	[illegible]	3	2	2	1	2		2	2	3	3	2	2	2	2	2	1.8	23	5
27	TUE	2	1	[illegible]	[illegible]	1	1	1	1	[illegible]							4	4	4	3	1	2	4	3	3	2.4	18	7
28	WED	2	1	[illegible]	[illegible]	0	0	0	1	2		1	1	1	1			3	3	3	2	1	1	2	1	1.3	21	4
MONTHLY MEAN		3	2	2	2	2	2	2	4	[illegible]	4	3	2	2	2		2	3	3	3	3	4	4	4	4	2.9		
NO. OF DAYS		28	28	[illegible]	[illegible]	24	28	26	26	[illegible]	25	25	23	23	23		20	24	27	28	28	28	27	27	28		608	
MAX. HRLY MEAN		32	29	22	22	17	15	15	17	23	21	9	5	5	5		4	8	9	11	23	30	26	33	39			

TABLE 3-30 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, MAY 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	TUE	4	2	1	0	1	2	4	5	5	3			3	3		2	3	3	2	1	2	3	3	1	2.4	21	8
2	WED	0	0	0	0	0	0	1	2	3	2	1	1	1	1			2	3	3	4	5	6	7	7	2.2	22	11
3	THU	5	3	1	1	0	1	3	5	6	2	2	1	1	1			1	1	1	1	8	10	13	19	4.0	22	24
4	FRI	21	20	15	15	13	15	24	23	15	9	6	1	1	0			1	1	1	2	2	3	3	4	8.8	22	28
5	SAT	3	4	3	4	6	7	12	7	5	3	1	0	0	0			0	0	1	2	3	5	8	8	3.7	22	14
6	SUN	2	1	0	0	0	1	1	0	1	0	0	0	0	1			1	1	1	1	2	3	3	2	0.9	22	5
7	MON	1	0	0	0	2	2	5	6	4	2	1	1	1	0			1	1	1	1	2	2	1	1	1.4	22	6
8	TUE	1	1	1	1	0	1	4	10	12	6	4	5	2	2			1	1	1	1	1	2	1	1	2.7	22	15
9	WED	1	0	0	0	0	0	1	2	4	2	1	1	1	1		1	1	1	0	0	0	0	0	0	0.8	23	4
10	THU	0	0	0	0	0	0	1	2	2	2	1	1	1	2		5	4	4	2	2	3	5	9	5	2.3	23	10
11	FRI	2	1	2	3	3	5	10	13	9	3	1	1	1	0		0	1	1	1	1	1	3	8	2	3.0	23	14
12	SAT																											
13	SUN																											
14	MON																											
15	TUE										1	0	0	0	0			0	0	0	0	1	1	5	8	1.3	13	11
16	WED	5	3	4	4	4	5	9	10	6	1			0	0			0	0	0	0	1	1	5	7	3.3	20	14
17	THU	6	3	2	2	2	3	9	10	6	1	0	0	0	0				0	0	0	0	2	6	4	2.8	21	13
18	FRI	3	9	4	5	3	4	9	7	6	2	1	0	0	0	0			0	0	2	2	4	2	1	2.8	22	11
19	SAT	6	5	7	6	4	4	5	6	3	1	1	1	0	0		0	0	0	1	1					2.6	19	8
20	SUN											0	0	0	0		0	0	0	1	1	1	1	1	1	0.5	13	2
21	MON	1	1	0	1	0	1	2	2	2	2	1	1	0	1		2	3	2	1	2	1	1	1	1	1.2	23	4
22	TUE	1	1	1	0	0	0	1	3	3							0	0	0	0	0	0	0	0	0	0.6	18	4
23	WED	0	0	0	0	0	1	2	2	3	1	1	1	0	0		0	0	0	0	0	0	0	0	0	0.5	23	4
24	THU	0	0	0	0	0	0	0	0	0	1	0	0	0	0		0	1	1	1	1	1	1	4	3	0.6	23	5
25	FRI	1	2	1	1	2	2	3	4	4	1	1	1	2	1		2	1	1	1	0	1	3	4	4	1.9	23	5
26	SAT	6	4	4	3	3	1	2	2	2	1	1	0	0	1		2	1	1	1	1	1	2	3	4	1.8	23	6
27	SUN																											
28	MON																											
29	TUE																											
30	WED																											
31	THU																											
MONTHLY MEAN		3	3	2	2	2	3	5	5	5	2	1	1	1	1			1	1	1	1	2	3	4	4	2.3		
NO. OF DAYS		21	21	21	21	21	21	21	21	21	21	20	20	22	22	1	12	21	23	23	23	22	22	22	22		485	
MAX. HRLY MEAN		21	20	15	15	13	15	24	23	15	9	6	5	3	3	0	5	4	4	3	4	8	10	13	19			

TABLE 3-29 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, APRIL 1962

DAY	OF	A M												P M												DAILY	NO.	5-HOUR
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR.	MAX.
1	SUN	1	2	2	2	1	1	1	2	2	3	2	2	2	2		1	1	1	1	1	1	1	2	2	1.6	23	3
2	MON	1	1	1	1	1	1	4	5	4	3	1	1	1	1		1	2	2	1	1	1	3	4	4	2.0	23	7
3	TUE	3	2	1	1	2	1	3	7	8	4	2	2	2	1			1	1	1	2	3	6	11	15	3.6	22	17
4	WED	13	9	9	8	6	3	3	11	14	7	5	2	1	1			1	2	1	2	3	8	13	16	6.4	22	19
5	THU	16	11	11	5	6	8	14	14	12	10	4	2	2	2		2	2	3	2	1	1	1	1	1	5.8	23	18
6	FRI	0	0	0	1	0	1	2	4	3	3	2	2	3	1		1	2	3	2	2	1	2	2	1	1.6	23	5
7	SAT	1	2	7	7	3	3	6	6	4	2	1	1	1	1		0	1	1	1	1	5	3	4	5	2.8	23	8
8	SUN	4	3	2	1	0	0	0	1	1	1	1	1	1	0		1	1	1	2	1	2	1	1	1	1.1	23	4
9	MON	1	0	0	0	0	0	1	1	2	1	1	2	1	1						0	0	0	1	2	0.8	19	3
10	TUE																											
11	WED																											
12	THU																											
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI	2	1	1	1	1	1	3	5	5	3	2	2	2	1		1	1	1	1	1	2	2	3	5	2.1	23	7
21	SAT	5	9	6	2	1	1	2	5	3	1	1	1	1	1		0	0	1	1	1	2	1	1	2	2.1	23	13
22	SUN	2	2	1	1	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0.3	22	3
23	MON	0						0	0	0	0							0	0	0	0	0	1	1	2	0.3	13	3
24	TUE	1	1	3	5	5	7	12	20	12	4	1					0	1	1	1	1	1	2	4	6	4.4	20	23
25	WED	8	7	7	6	5	6	12	20	7	3	1			0			0	0	0	1	5	8	12	21	6.4	20	26
26	THU																											
27	FRI																											
28	SAT	6	7	6	1	0	0	1	1	2	2	4	2	2	3		1	1	2	2	2	1	2	1	1	2.2	23	9
29	SUN	1	1	1	1	1	1	1	1	3	2	1	1	1	1		1	1	1	1	1	2	2	3	5	1.4	23	6
30	MON	4	4	1	1	1	1	5	4	5	2	2	2	1	1		1	2	2	2	2	2	2	4	5	2.4	23	7
MONTHLY MEAN		4	4	3	3	2	2	4	6	5	3	2			1			1	1	1	1	2	3	4	5	2.6		
NO. OF DAYS		18	17	17	17	17	17	18	18	18	18	17	15	15	16		12	17	17	17	18	18	18	18	18		391	
MAX. HRLY MEAN		16	11	11	8	6	8	14	20	14	10	5	2	3	3		2	2	3	2	2	5	8	13	21			

TABLE 3-32 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, JULY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	4	8	4	3	2	1	1	2	1	1	1	1	0	0		0	0	0	0	0	0	1	1	0	1.3	23	11
2	MON	0	0	0	0	0	0	0	1	2	1	2	2	2	1		0	1	1	1	0	0	0	0	0	0.6	23	3
3	TUE	0	0	0	0	1	1	0	1	1	4	2	1	1	1		1	1	1	1	1	1	1	1	1	0.9	23	5
4	WED	1	1	0	0	0	0	2	1	1	0	1	1	0	0		0	0	0	0	0	0	0	0	0	0.4	23	2
5	THU	0	0	0	0	0	0	0	1	2	1	1	0	0	0		0	1	1	1	1	0	0	0	0	0.4	23	2
6	FRI	0	0	0	0	0	0	1	2	1	1	1	0	1	1		0	1	1	1	1	1	2	3	6	1.0	23	7
7	SAT	5	2	2	1	1	2	4	3	2	2	1	2	1	0		0	0	0	0	0	0	0	1	1	1.3	23	7
8	SUN	1	1	1	1	1	1	0	1	1	1	0	0	1	1			0	0	1	1	1	1	1	1	0.8	22	2
9	MON	1	1	0	0	0	0	0	1	2	1		1	1	1		1	1	1	1	1	1	2	2	4	1.0	22	6
10	TUE	3	3	4	3	3	2	7	7	2	1			0	0		0	0	0	0	0	0	2	4	3	2.1	21	11
11	WED	2	0	1	2	2	2	2	3	2	1	1	0	0	0		0	0	0	0	0	0	0	0	0	0.8	23	4
12	THU	0	0	0	0	0	0	2	3	2	1	1	1	0	0											0.7	14	3
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI																											
21	SAT																											
22	SUN																											
23	MON									2	1	1	1	1	0		0	0	1	0	0	1	1	2	3	0.8	15	4
24	TUE	1	1	1	1	1	2	3	5	4	1	1	0	0	0		0	1	1	0	0	1	1	1	1	1.2	23	7
25	WED	1	2	2	1	0	1	2	3	3	2	1	1	0	0		0	1	0	0	1	1	1	0	1	1.0	23	4
26	THU	0	0	0	0	0	0	1	1	1	2	2	1	1	1		1	1	2	1	1	2	2	3	4	1.2	23	4
27	FRI	3	2	2	2	2	4	7	7	6	2	1	1	1				2	2	1	2	5	5	7	11	3.6	21	15
28	SAT	14	11	10	10	8	7	6	5	3	2	1			1		1	1	1	0	0	1	3	6	4	4.5	21	19
29	SUN	2	1	1	0	0	0	1	1	1	1	1	1	1	1		0	0	0	0	0	1	1	1	1	0.8	23	3
30	MON	1	1	1	0	1	5	5	7	3	1	0	0	0	0		0	1	1	0	1	1	4	5	4	1.7	23	8
31	TUE	3	3	3	2	2	4	5	8	5	4	2	1	1	1		1	1	1	1	1	2	2	2	3	2.6	23	9
MONTHLY MEAN		2	2	2	1	1	2	2	3	2	1	1	1	1	0		0	1	1	0	1	1	1	2	2	1.4		
NO. OF DAYS		20	20	20	20	20	20	20	20	21	21	19	19	20	20		18	20	20	20	20	20	20	20	20		458	
MAX. HRLY MEAN		14	11	10	10	8	7	7	8	6	4	2	2	2	1		1	2	2	1	2	5	5	7	11			

TABLE 3.31 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, JUNE 1962

DAY OF MONTH	DAY OF WEEK	AM 12	AM 1	AM 2	AM 3	AM 4	AM 5	AM 6	AM 7	AM 8	AM 9	AM 10	AM 11	PM 12	PM 1	PM 2	PM 3	PM 4	PM 5	PM 6	PM 7	PM 8	PM 9	PM 10	PM 11	DAILY MEAN	NO. OF HR.	5-MIN MAX.
1	FRI																											
2	SAT	2	2	1	1	1	1	1	1	1	1	0	0	0	0		0	0	0	0	0	0	0	0	0	0.5	23	3
3	SUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0.0	22	0
4	MON	0	0	0	0	1	1	2	2	1	2	1	1	0	0		0	0	0	1	1	1	0	1	1	0.6	23	3
5	TUE	0	0	0	0	0	0	0	1	1	1				0		0	0	0	0	0	0	1	1	1	0.3	20	1
6	WED	1	1	1	1	0	0	2	1	1	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0.3	23	2
7	THU	0	0	0	1	0	0	0	0	0		1	0	0	0		0	0	0	0	0	0	0	0	0	0.1	22	1
8	FRI	0	0	1	0	0	0	1	2	2	1	1	0	1	0		1	1	0	0	0	1	1	1	1	0.7	23	3
9	SAT	1	1	1	1	1	1	1	1	1	1	1	1	0	0		0	0	1	0	0	1	1	1	1	0.7	23	2
10	SUN	1	2	1	1	0	1	1	1	1	0	0	0	0	0		0	1	1	2	1	1	1	1	0	0.6	23	3
11	MON	0	0	1	0	0	1	2	1	1	1	1	1	1	1		4	4	2	2	2	1	1	2	1	1.3	23	5
12	TUE	0	0	1	1	1	0	2	4		2	0	0	0	0		3	3	3	2	3	1	1	1	1	1.3	22	4
13	WED	1	2	1	1	0	0	2	5	4	2	2	1	1	1		1	1	2	1	3	2	1	3	4	1.8	23	5
14	THU	7	8	7	4	2	4	8	10	4	2	1	0	0	0		1	1	1	1	2	2	5	7	5	3.6	23	11
15	FRI	3	5	3	3	2	3	5	6	3	1	1	1	1	0		0	0	0	0	0	1	5	8	10	2.6	23	12
16	SAT	10	7	6	10	10	11	8	6	2	1	0	0	0	0		0	0	0	0	0	1	1	3	4	3.5	23	14
17	SUN	3											0	0	0		0	0	0	0	0	0	0	2	4	0.7	13	5
18	MON	4	3	4	3	2	2	4	5	2	0				0		0	0	0	0	0	0	0	0	0	1.5	20	8
19	TUE	0	0	0	0	0	0	2	3	2	1	1	1	0	0		1	1	1	0	0	0	0	0	2	0.7	23	3
20	WED																											
21	THU																											
22	FRI	0	0	0	0	0	0	1	2	1	1	2	1	0	0		0	0	0	0	0	1	1	2	2	0.6	23	2
23	SAT	1	1	0	0	0	0	1	2	1	1	1	1	0	0		0	0	0	0	0	0	0	0	0	0.4	23	2
24	SUN	0	0	0	0	0	0	0	1	2	1	0	0	0	0		0	0	1	1	1	1	1	2	1	0.5	23	2
25	MON	1	2	1	1	0	1				2	0	0	0	0		0	0	0	0	0	1	3	4	4	1.0	20	5
26	TUE	7	6	5	7	4	4	6	6	4	1	1	1	0	0		0	0	1	1	0	1	1	1	0	2.6	23	11
27	WED	0	0	0	0	0	0	0	2	2	1	0	0	1	0		0	0	0	0	0	0	0	1	5	0.5	23	9
28	THU	10	10	9	8	7	8	9	8	2		0	0	0	0		0	0	0	0	0	0	0	0	0	3.2	22	11
29	FRI	0	0	0	0	0	2	4	3	3	1	1	1	1	1		0	1	1	1	1	0	1	3	4	1.2	23	5
30	SAT	6	4	3	5	5	3	5	6	2	1	1	1	1	0		0	0	0	0	1	1	1	2	3	2.1	23	7
MONTHLY MEAN		2	2	2	2	1	2	3	3	2	1	1	0	0	0		0	0	0	0	1	1	1	2	2	1.2	598	
NO. OF DAYS		27	26	26	26	26	26	25	25	24	24	24	25	25	27		26	27	27	27	27	27	27	27	27			
MAX. HRLY MEAN		10	10	9	10	10	11	9	10	4	2	2	1	1	1		4	4	3	2	3	2	5	8	10			

TABLE 3.34 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis)

CINCINNATI, SEPTEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	1-HR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	1	1	1	1	1	1	2	3	3	2	1	1	1	1		1	2	2	2	3	3	3	4	4	1.9	23	4
2	SUN	3	3	3	3	2	3	4	4	4	4	3	2		0		0	0	0	0	0	2	4	3	1	2.1	22	4
3	MON																											
4	TUE																											
5	WED	1	1	1	0	0	0	1	2	4	3	3	2	2	1		1	2	3	3	3	3	4	5	5	2.2	23	6
6	THU	3	1	1	0	0	0	2	5	4	2	2	1	1	1		1	1	1	1	2	2	3	13	14	2.7	23	19
7	FRI	19	16	14	12	12	12	15	22	17	6	3	1	1	0		0	1	1	1	3	9	16			8.7	21	24
8	SAT																											
9	SUN	1	1	1	1	0	0	0	0	1	2	3	4	2	1		2	1	2	3	2	3	2	2	1	1.5	22	4
10	MON	1	1	1	2	3	3	3	3	2	2	2	1				2	2	2	2	3	3	4	5	5	2.5	21	5
11	TUE	5	5	4	4	3	2	2	4	6	5	3	1	1	1		1	2	2	3	6	6	8	12	11	4.1	23	14
12	WED	9	9	7	6	6	4	11	15	11	6	2	1	2			0	1	1	2	5	9	12	11	18	6.7	22	23
13	THU	16	11	3	7	6	5	8	14	12	4	2	1	2	2		1	1	1	1	3	3	2	2	1	5.0	23	22
14	FRI	1	0	0	1	0	0	1	2	4					2		2	2	3	2	2	3	2	1	1	1.5	19	4
15	SAT	1	1	1	1	1	1	2	3	2	2	1	2	1	1										0	1.2	15	3
16	SUN	1	0	0	0	0	0	0	0	0	0	1	0					0	0	0	0	0	0	0	0	0.1	20	8
17	MON	0	0	0	0	0	0	0	3	3	2	1	1	1	1		1	1	1	1	1	1	2	2	2	1.0	23	5
18	TUE	2	1	1	1	2	4	5	7	6	2		2	1	2		2	2	2	1	2	2	3	4	3	2.5	22	8
19	WED	3	3	2	2	3	2	2	2		3	3	2	3	5		1	3	4	3	4	2	2	3	2	2.7	22	6
20	THU	2	2	1	1	2	4	7	7	8	7	5	3	2	2		2	3	4	3	5	8	6	6	6	4.1	23	13
21	FRI	2	1	1	1	0	0	3	14	12	6	2	1	1	0		1	1								3.2	16	24
22	SAT																											
23	SUN	25	26	22	25	20	16	16	13	7	4	1										0	0	15	19	13.8	15	27
24	MON																											
25	TUE																											
26	WED																											
27	THU	2	1	1	0	1	0	3	6	6	3	2	1	2	1			1	3	2	2	2	1	2	1	1.9	22	8
28	FRI	0	0	0	0	0	0	1	6	6	3	3	2	1	1			2	2	3	7	17	19	12	11	4.3	22	22
29	SAT	9	7	9	7						5	3	1	1	1		1	1	1	3	8	12	16	16	16	6.5	18	33
30	SUN	15	17	15	12	10	8	7	7	6	5	3	1	0	1			0	0	2	8	15	16	21	25	8.7	22	26
MONTHLY MEAN		5	5	4	4	3	3	4	7	6	4	2	1	1	1		1	1	2	2	3	5	5	7	7	3.8		
NO. OF DAYS		23	23	23	23	22	22	22	22	21	22	21	21	18	19		17	21	20	20	20	21	21	20	21	483		
MAX. HRLY MEAN		25	26	22	25	20	16	16	22	17	7	5	4	3	5		2	3	4	3	8	17	19	21	25			

TABLE 3.33 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, AUGUST 1969

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	1-HR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	WED	4	5	4	5	4	4	6	7	7	3				0		0	0	1	1	2	4	7	5	6	3.0	20	10
2	THU	5	4	5	4	11	11	12	18	7	1	0	0	0	0		0	0	0	0	0	0	7	5	2	4.1	23	18
3	FRI	16	16	12	11	10	13	13	15	2	1	1	1	0	0		0	0	0	0	0	0	2	5	4	5.4	23	16
4	SAT	11	6	6	6	4	3	3	2	1	0	0	0	0	0		0	0	0	0	0	1	1	1	2	2.2	23	12
5	SUN	2	2	2	2	1	1	1	2	2	0	0	0	0	0		0	0	0	0	0	0	1	2	1	0.8	23	2
6	MON	0	0	0	0	0	0	0	2	2	3	2	2	1	1		1	3	2	1	1	1	2	3	3	1.3	23	3
7	TUE	3	3	2	2	1	1	1	1		1	1	1	1	0		1	1	1	1	1	1	1	2	6	1.3	22	7
8	WED	6	7	7	6	5	6	6		4	1	1	1	0	0		1	1	1	1	1	1	1	1	1	2.0	22	8
9	THU	1	1	0	0	0	0	1	3	3	2	1	1	1	1		1	1	1	1	1	1	1	1	2	1.2	23	4
10	FRI	3	2	2	2	2	3	5	5					1	1		1	1	1	1	0	1	4	13	7	2.5	19	13
11	SAT	2	1	1	1	1	1	1	2	2	1	1	1	0	0		0	1	1	1	1	2	2	2	1	1.1	23	4
12	SUN	1	0	0	0	0	0	0	1	1	1	1	2	1	1		0	0	0	0	0	0	0	0	0	0.3	23	3
13	MON	0	0	0	0	0	0	0	0	0		3	2	1	1		4	1	1	1	1	2	2	1	1	0.8	22	4
14	TUE	0	0	0	0	0	0	1	4			2	2	3	2		2	2	3	2	1	2	7	16	19	3.1	21	21
15	WED	22	18	15	13	9	7	3	5	4		1	1	1	1		0	1	1	1	1	2	5	9	12	5.8	22	22
16	THU	7	7	6	7	9	10	8	11	9	2	1	1	1	1		1	1	1	1	1	2	3	3	4	4.2	23	16
17	FRI	1	1	1	1	4	4	6	6		3	2	2	1	1		1	1	1	2	2	5	14	10	13	3.7	22	18
18	SAT	16	12	13	12	9	9	12	9	3	3	2	1	1	0		0	0	0	1	1	5	6	3	3	5.0	23	17
19	SUN	2	1	2	1	1	1	1	1	1	1	0	0	0	0		0	0	1	2	1	1	1	1	0	0.8	23	3
20	MON	0	0	0	0	0	0	1	2	1	1	0	0	0	0		0	0	0	0	0	1	1	1	1	0.4	23	4
21	TUE	0	0	0	0	0	0	0	0	1	0	1	1	1	0			0	1	0	0	0	0	0	0	0.2	22	4
22	WED	2	5	6	7	8	9	12	16	11		1	0	0	0		0	0	0	0	0	1	0	1	0	3.5	22	16
23	THU	0	0	0	0	0	0	1	11	9	1	0	0	0	0		0	0	0	0	0	1	2	1	1	1.0	23	13
24	FRI	0	0	0	0	0	0	1	2	3	1	1	1	1	0		1	1	1	1	0	1	0	1	1	0.7	23	3
25	SAT	1	0	0	0	0	0	0	1	1	0	0	1	1	1		0	1	2	1	1	1	1	0	1	0.6	23	3
26	SUN	1	1	1	1	0	0	0	0	0	0	1	1	1	1			1	0	0	1	2	3	3	4	1.0	22	5
27	MON	6	5	6	6	6	7	9	10	5	2			1	1		0	1	1	1	1	3	3	10	13	4.3	21	13
28	TUE	11	9	6	6	7	10	16	20	17	7	1	0	0	0		0	0	0	0	0	1	2	2	2	4.9	23	21
29	WED	3	6	10	11	12	13	18	16	13	6	0	0	0	0			1	1	1	2	5	6	3	9	6.1	22	19
30	THU	17	15	13	9	9	16	18	17	16	6	1	1	1	0		0	0	1	1	1	1	1	1	1	6.1	23	20
31	FRI	1	0	0	0	0	0	1	5	6				2	1		1	1	3	2	2	1	2	3	4	1.7	20	6
MONTHLY MEAN NO. OF DAYS MAX. HRLY MEAN		5 31 22	6 31 18	6 31 15	6 31 13	6 31 12	6 31 16	5 31 18	6 30 20	5 27 17	2 [illegible] 7	1 29 3	1 29 2	1 30 3	0 31 2		0 28 2	1 31 3	1 31 3	1 31 2	1 31 2	2 31 5	3 31 14	4 31 16	4 31 19	2.6	698	

TABLE 3-36 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, NOVEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-HR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	4	5	7	7	6	6	8	16	17	12	7	4	3	2		3	4	4	5	5	6	7	7	11	6.6	23	19
2	FRI	12	6	6	6	3	5	7	6	8	6	4	3	2	2		3	5	6	6	6	5	3	3	2	5.0	23	14
3	SAT	2	2	2	4	3	3	5	7	7	7	6	5	4	3			2	3	3	3	4	2	2	2	3.6	22	8
4	SUN	2	3	2	2	1	1	1	2	2	3	3	3	2	2		2	2	3	3	2	2	2	2	2	1.9	23	4
5	MON	2	2	2	2	2	2	3	6	6	8	7	6		5		3	6	6	7	5	4	5	4	5	4.5	22	9
6	TUE	4	3	3	3	5	6	9	20	31	29	12	6	4	2		2	3	3	4	2	1	1	0	0	6.6	23	33
7	WED	1	1	0	0	0	2	4	6	5	4	4	3	3	3		4	5	6	5	3	4	3	3	3	3.1	23	8
8	THU	3	2	2	3	5	6	7	4	10	8	7	6	4	3		3	4	5	4	2	3	2	2	2	4.4	23	13
9	FRI	1	1	1	1	1	1	2	6	7	6	6	5	4	4		3	4	5	4	4	5	4	4	4	3.5	23	8
10	SAT	2	2	2	1	1	1	1	2	1	1	2	2						2	2	2	4	4	2	3	2.0	19	5
11	SUN	3	3	3	4	5	4	4	7	8	9	6	3	3	2		1	1	2	5	4	2	2	3	2	3.8	23	10
12	MON	2	2	2	2	2	2	5	10	13	9	8	8	7	6											5.6	14	15
13	TUE																											
14	WED		19	15	14	11	13	18	27	34	18				3		2	3	6	8	3	3	3	3	3	10.7	19	40
15	THU																											
16	FRI										9	8	8	6	7		4	5	6	5	4	5	5	5	4	5.8	14	10
17	SAT	3	3	2	2	1	1	2	3	2		2	3	3	3		3	3	3	5	4	6	5	4	4	3.0	22	7
18	SUN																											
19	MON										6	5	6	5	4		4	4		5	5	4	4	3	3	4.5	13	8
20	TUE																											
21	WED																											
22	THU																											
23	FRI	2	3	3	2	2	2	7	11	16	11	9	6	5	4		3	4	6	8	4	3	1	1	1	5.0	23	19
24	SAT	1	0	0	1	0	1	3	7	4	5	3	4	2	2		1	1	1	3	2	3	3	3	4	2.5	23	10
25	SUN	4	2	4	5	2	1	1	4	4	5	4	4	2	2		1	1	2	4	5	9	18	11	6	4.5	23	19
26	MON	17	19	6	7	11	13	18	23	19	8	7	4	2	1			3	8	17	14	11	9	5	9	10.4	22	33
27	TUE	4	3	3	4	4	4	6	13	21	15												5	14	20	9.2	13	26
28	WED	23	20	17	14	8	7	10	20	18					2			3	9	6	4	5	4	4	4	9.9	18	28
29	THU	21	19	12	6	16	16	15	9	11	13	5	3	2	1			6	7	5	5	4	4	5	4	8.5	22	27
30	FRI	19	10	17	21	19	20	28	41	46	55	50	39	20	5											28.6	14	60
MONTHLY MEAN		6	6	5	5	5	5	8	11	14	11	8	6	4	3		3	3	5	5	4	4	5	4	4	5.9		
NO. OF DAYS		21	22	22	22	22	22	22	22	22	22	21	21	19	22		18	20	20	21	21	21	22	22	22		487	
MAX. HRLY MEAN		23	20	17	21	19	20	28	41	46	55	50	39	20	7		4	6	9	17	14	11	18	14	20			

TABLE 3-35 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, OCTOBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON	26	7	22	19	16	16	19	27	14	9	5							2	1	1	1	0	0	0	11.4	18	30
2	TUE	0	0	2	2	1	0	0	2	5	5	4	4	3	2			4	5	4	3	3	3	2	2	2.5	22	7
3	WED	2	1	1	0	0	0	1	3	3	3	2	2	2	1		1	1	2	3	8	17	12	15	16	4.2	23	34
4	THU	17	13	9	9	7	9	10	17	24	13						0	1	1	1	3	4	5	5	6	8.0	19	34
5	FRI	5	5	6	6	5	7	10	15	16	11	5	1	1	1		1	1	2	2	3	4	11	15	8	6.2	23	18
6	SAT	5	3	8	13	8	9	8	9	7	5	4	2	1	1		2	1	2	3	3	3	1	2	2	4.4	23	14
7	SUN	2	2	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	2	3	9	2	2	2	1.4	23	4
8	MON	1	1	2	2	1	1	2	5	3	2	2	2	1	1		2	3	3	2	2	1	1	1	1	1.8	23	6
9	TUE	1	1	1	1	1	1	2	4	4	3	2	1	1	1		2	3	5	8	12	11	14	16	16	4.8	23	20
10	WED	15	12	11	10	10	15	22	22	19	11	5	2	1	2		0	1	1	2	6	8	12	8	4	8.6	23	26
11	THU	2	1	1	1	1	1	3	7	6	3	2	1	1	1		1	1	1	1	3	3	3	2	1	2.0	23	8
12	FRI	1	1	1	0	1	1	1	2	3	2	1	1	1	1		1	1	1	2	3	5	3	4	5	1.9	23	6
13	SAT	4	3	1	1	1	1	1	2	2	3	2	2	1	1		1	1	1	1	2	2	3	4	4	1.9	23	5
14	SUN	4	3	5	4	6	6	7	6	5	3	2	1	0	1		1	1	1	1	4	5	12	8	7	4.0	23	13
15	MON	5	3	3	2	2	7	8	8	7	5	2	1	1	1		1	2	4	5	3	2	2	1	1	3.3	23	11
16	TUE	1	1	1	1	1	1	4	5	4	2	1	1	1			1	1	2	4	1	1	1	2	1	1.7	22	6
17	WED	1	1	1	2	1	2	4	10	8		3	2	1	1		1	3	3	4	10	20	16	14	20	5.8	22	24
18	THU	23	19	18	12	12	14	18	23	15	5	4	1	1	0		2	2	3	5	9	12	11	12	16	10.2	23	26
19	FRI	14	13	11	10	9	9	13	21	21	9	6	2	1	1		1	2	2	5	7	6	5	13	14	8.5	23	25
20	SAT	12	11	10	6	5	5	6	11	8	6	5	2	1	1		1	1	1	2	2	2	2	3	2	4.5	23	16
21	SUN	1	1	1	1	1	1	1	1	1	1	2	2	1	2					0	2	3	6	8	5	2.0	20	9
22	MON																											
23	TUE																											
24	WED	1	1	1	0	1	1	2	6	5	4	3	2	2	2		2	3	4							2.3	17	8
25	THU			6	5	1	2	5	7	6	3	3	2	2	2		2	2	2	2	2	2	3	3	3	3.1	21	8
26	FRI	3	4	4	4	4	4	4	4	4							2	3	4	7	9	8	10	16	16	6.1	18	19
27	SAT	16	16	11	9	5	6	6	6	6	5	5	5	3	2		1	1	1	3	4	6	5	2	1	5.4	23	18
28	SUN	1	0	0	0	0	0	0	0	0	0	0	1	0	0		0	0	1	1	1	1	1	1	1	0.4	23	2
29	MON	1	1	2	2	1	2	4	8	7	3			1	1		2	3	6	6	8	6	11	12	14	4.8	21	17
30	TUE	16	9	5	3	3	3	4	7	6	5		2	2	3		2	2	2	5	5	2	2	2	2	4.2	22	20
31	WED	3	4	5	5	4	5	6	11	17	13	8	5	4	4		4	5	7	9	12	12	13	7	6	7.3	23	19
MONTHLY MEAN		7	6	9	4	4	4	6	9	8	5	3	2	1	1		1	2	2	3	5	5	6	6	6	4.5		
NO. OF DAYS		28	28	29	29	29	29	29	29	29	27	25	25	26	25		26	27	28	28	28	28	28	28	28		636	
MAX. HRLY MEAN		26	27	22	19	16	16	22	27	24	13	8	5	4	4		4	5	7	9	12	20	16	16	20			

CINCINNATI, JANUARY 1963

TABLE 3-38 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis)

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE																											
2	WED																											
3	THU																											
4	FRI																											
5	SAT																											
6	SUN																											
7	MON																											
8	TUE	1	1	1	0	0	0	2	3	6	5	6	4	3	2			3		6	3	2	1	1	1	2.7	22	7
9	WED	1	0	0	0	0	1											0	5	6	6	3	2	1	2	2.0	14	9
10	THU	2	1	1	1	2	2	5	5	6	5	3	5	5	5		13	10			8	8	6	7	5	5.0	21	15
11	FRI	4	5	5	5	3	4	5	9	9		6	8	8	11			15	16	15	12	14	10	6	6	8.4	21	20
12	SAT	5	5	6	7	5	5	5	1	2	2	2	2	3	3			3	4	4	2	3	2	2	1	3.3	22	7
13	SUN	1	1	1	1	1	1	1	1	1	1	2	1	1	1		2	3	5	5	4	4	4	3	3	2.1	23	6
14	MON	3	4	4	4	4	5	7	9	10	10	8	9					3	5	7	9	4	4	4	4	5.9	20	11
15	TUE	2	3	2	2	1	2	3	5	6	4	6	4	3	4		5	7	7	4	3	7	9	9	10	4.6	23	14
16	WED	11	7	7	6	4	4	9	15	24	24	14		4	4			3	4							9.5	15	28
17	THU																											
18	FRI																											
19	SAT																											
20	SUN																											
21	MON																											
22	TUE																											
23	WED																											
24	THU																											
25	FRI																											
26	SAT																											
27	SUN																											
28	MON																											
29	TUE																											
30	WED																											
31	THU																											
MONTHLY MEAN																										181		
NO. OF DAYS		9	9	9	9	9	9	8	8	8	7	8	7	7	7		3	9	8	7	8	8	8	8	8			
MAX. HRLY MEAN		11	7	7	7	5	5	9	15	24	24	14	9	8	11		13	15	16	15	12	14	10	9	10			

TABLE 3-37 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, DECEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT																											
2	SUN																											
3	MON																											
4	TUE		20	1	15	14	14	21	29	39	30	29	18	13	6		2	4	6	10	7	9	12	5	5	14.7	22	42
5	WED	3	1	1	[illegible]	0	1	2	5	[illegible]	6				4		2	4	4	4	3	3	2	4	3	2.9	20	7
6	THU	2	1	[illegible]	[illegible]	1	1	2	[illegible]	3	4	5	3	3	3			2	2	3	2	2	2	2	1	2.1	22	5
7	FRI	1	1	[illegible]	[illegible]	0	0	1	[illegible]	[illegible]	2		2	2	2		1	2	2	3	3	2	2	1	1	1.3	22	3
8	SAT	1	1	[illegible]	[illegible]	1	0	1	[illegible]	3	4	3	2	2	2		1	2	2	2	2	2	4	4	2	1.8	23	5
9	SUN	4	0	[illegible]	[illegible]	6	1	1	[illegible]	[illegible]	1	1	1	1	1		1	1	1	1	1	1	1	0	1	2.1	23	10
10	MON	1	1	[illegible]	[illegible]	0	0	1	[illegible]	[illegible]					2		1	2	2	2	2	1	1	1	1	1.3	19	5
11	TUE	1	1	1	[illegible]	0	0	1	2	[illegible]		2	2	2	2			2	3	3	3	2	2	2	2	1.7	21	3
12	WED	2	2	1	0	0	1	1	3	[illegible]	4	4	4	3	3		2	4	4	4	4	4	3	4	3	2.7	23	5
13	THU	1	0	1	1	1	1	2	4	[illegible]	4	2			7		5	5	4	3	1	0	1	1	1	2.4	21	9
14	FRI	2	1	1	1	1	2	3	5	[illegible]	7	7	6	4	3			4	8	9	8	9	9	7	5	4.9	22	10
15	SAT	5	4	4	3	2	2	2	3	4	6	7	4	1	1		0	2	6	10	11	14	18	24	34	7.2	23	36
16	SUN	29	25	26	30	22	19	14	13	[illegible]	4	4	4	4	4			3	3	4	4	3	3	3	3	10.5	22	33
17	MON																											
18	TUE																											
19	WED																											
20	THU												4	4	4	3	3	4	5	3	2	1	1	1	0	2.5	13	6
21	FRI	0	0	[illegible]	0	0	1	3	4	13	12	10	12	11	10		11	14	16	14	15	10				8.0	20	18
22	SAT		4	2	2	1	1	2	2	2	4	4	6	5	6			6	5	6	3	4	3	2	2	3.4	21	8
23	SUN	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2			2	2	2	2	2	3	2	1.7	22	3
24	MON	3	2	1	1	1	1	4	4	11	8	13	14	14	9		4	5	4	2	3	3	2	2	2	5.1	23	17
25	TUE	2	2	1	2	2	3	3	3	5	5	5	3	4	4		4	5	6	8	9	8	6	4	4	4.2	23	10
26	WED																											
27	THU		4	4	[illegible]	12	12	14	15	20	16	15	7	3	2			3	8	8	5	3	4	3	6	8.1	21	22
28	FRI	5	4	3	3	2	0	6	17	25	17	11	5	3				5	5	6	6	5	4	4	1	6.5	21	30
29	SAT	2		2	2	3	3	5	5	14	20	23	15	5	2			0	0	1	0	1	0	1	0	4.9	21	25
30	SUN	0	0	0	1	0	0	0	0	1	1	3	2	2	3		3	2	2	3	4	5	4	5	5	1.9	23	7
31	MON																											
MONTHLY MEAN		3	4	4	4	3	3	4	6	8	8	8	6	4	4			4	4	5	4	4	4	4	4	4.5		
NO. OF DAYS		19	21	22	22	22	22	22	22	22	20	19	20	20	22	2	14	22	23	23	23	23	22	22	22		491	
MAX. HRLY MEAN		29	25	26	30	22	19	21	29	39	30	29	18	14	10	3	11	14	16	14	15	14	18	24	34			

TABLE 3-40 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, MARCH 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	**WEEK**	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	1	1	0	0	0	1	2	4	8	8	7	8	9	9		6	7	4	3	4	3	2	1	2	3.9	23	20
2	SAT	1	1	0	0	0	0	0	1	3	5	4	3	2	1		1	2	1	2	3	12	15	21	16	4.1	23	25
3	SUN	13	11	6	8	7	4	5	3	5	7	6	4	2	1			1	1	2	6	16	31	32	34	9.3	22	38
4	MON	36	21	19	26	21	11	17	18	13			7	7	5		6	8	11	10	12	10				14.2	18	37
5	TUE																											
6	WED	1	1	0	0	0	0	0							0		0	1	1	1	2	2	3	2	1	0.8	17	3
7	THU	1				1	0	0	1	2	3	2	2	2	1		1		2	2	2	3	4	4	2	1.7	19	5
8	FRI	0	0	0	0	0	0	1	6	4	3	3	2	2	2		1	1	1	3	4	5	6	13	19	3.3	23	22
9	SAT	26	21	24	10	5	3	3	2	2	5	6	10	8	4		3	3	4							8.0	17	31
10	SUN						0	0	0	0	0			1	1			0	1	1	3	4	3			1.0	13	5
11	MON		0	0	0	0	0	1	5	7								3	6	5	3	3	3	4	6	3.0	16	7
12	TUE	8	5	4	3	2	4	7	8	15	20	9	5	2	1		0	2	2	3	4	4	2	1	1	4.8	23	23
13	WED																											
14	THU	2	1	1	1	1	1	2	4	7	4	2	1	2	1		1	1	2	2	2	1	1	1	1	1.8	23	7
15	FRI	1	2	2	1	0	0	1	4	4	2	2	1	1	1		0	1	1	2	1	2	4	5	5	1.8	23	19
16	SAT	6	5	3	2	2	2	2	3	5				9	6		3	4	5	7	9	8	8	3	2	4.6	20	18
17	SUN	2	2	2	2	1	1	1	1	1	1	1	0	0	0			0	0	0	0	0	0	0	0	0.7	22	2
18	MON	0	0	0	0	0	0	0	2	3	3	1	1	1	2		3	2	3	2	2	1	1	1	1	1.2	23	4
19	TUE	1	0	0	0	0	0	1	4	5	5	5	5	7						1	1	1	1	1	1	2.0	19	7
20	WED	1	0	0	0	0	0	0	0		1	1	1	1	1		1	2	1	1	1	1	1	1	1	0.8	22	2
21	THU	1	1	1	1	1	1	1			2	1	1	1	1		1	1	2	1	1	1	1	1	0	1.0	21	2
22	FRI	0	0	0	0	0	0	1	3	4	3	2	2	1	1		1	1	3	3	3	8	14	12	15	3.3	23	20
23	SAT	18	16	17	13	7	5	6	5	6	6	4	2	1	1		0	0	0	0	1	2	1	1	1	4.9	23	20
24	SUN	1	1	1	3	1	1	2	2	3	1	0	0	0	0		0	0	0	1	3	2	2	3	1	1.3	23	4
25	MON	1	0	0	0	0	0	3	3	4	2	1	1	1	1			4	4	4	4	2	2	3	2	1.9	22	5
26	TUE	3	2	3	2	2	1	3	3	4	3	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2.5	24	4
27	WED	3	2	2	2	2	3	4	7	8	6	6	5	4	4	4	3	4	4	5						4.0	19	9
28	THU																											
29	FRI	13	13	9	7	5	4	4	7	9	6	3	2	1	1	1	1	1	2	1	4	5	5	3	1	4.5	24	15
30	SAT	1	1	1	1	1	0	0	1	1	1	3	3	2	2	1	1	2	2	3	3	6				1.7	21	7
31	SUN			2	1	1	1	1	1	1	1	1	1	1	1	1	1				2	2	2	2	2	1.3	19	3
MONTHLY MEAN		6	4	4	3	2	1	2	4	5	4	3	3	3	2		2	2	2	3	3	4	5	5	5	3.3		
NO. OF DAYS		25	25	26	26	27	28	28	26	25	24	23	24	26	26	5	22	25	26	26	26	26	24	23	23		585	
MAX. HRLY MEAN		36	21	24	26	21	11	17	18	15	20	9	10	9	9	4	6	8	11	10	12	16	31	32	34			

TABLE 3-39 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, FEBRUARY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI																											
2	SAT																											
3	SUN																											
4	MON																											
5	TUE																											
6	WED																											
7	THU																											
8	FRI																											
9	SAT	2	2	1	1	1	1	1	1	3	6	6	5	5	3		3	3	4	6	8	8	6	8	8	3.9	23	11
10	SUN	7	5	6	4	3	3	3	3	3	3	4	5	4	4			6	13	11	8	9	7	4	4	5.4	22	16
11	MON	4	3	2	1									3	3		2	2	4	3	2	2	2	2	2	2.3	15	5
12	TUE	1	1	0	0	0	0	2	4	7	6		4	3	2			2	2	1	1	1	2	1	1	1.9	21	7
13	WED	1	1	1	1	1	1	3	4	6	6		4	3	3			2	3	3	3	2	1	2	1	2.5	21	6
14	THU	1	0	0	0	0	0	1	1	2	1	1	1	1	1			1	1	1	1	1	1	1	1	0.8	22	2
15	FRI	1	1	0	0	0	1	1	3	6	5	5	4	3	3		2	3	3	4	4	6	7	5	5	3.1	23	9
16	SAT	6	8	10	12	10	7	5	6	14	8	5	4						2	2	4	5	3	4	4	6.2	19	16
17	SUN	3	3	2	2	2	2	4	4	4	4	4	2	1	1			2	1	2	5	3	4	4	3	2.8	22	6
18	MON	2	2	2	2	2	5	6	9	11									3	4	4	3	3	5	7	4.3	16	13
19	TUE	5	11	16	16	14	13	17	20	30	14	6	3	2	2			1	1	2	3	2	1	1	1	8.1	22	34
20	WED	0	0	0	0	0	0	1	3	4		2	2	1	1		0	0	0	0	0	0	0	0	0	0.7	22	6
21	THU	0	0	0	0	0	0	0	0	1	1	1	1	1	1			1	1	1	1	1	1	1	1	0.6	22	1
22	FRI	1	1	1	1	1	1	2	3	3	3	2	2	2	2			2	2	2	3	3	3	2	2	2.0	22	3
23	SAT	2	2	3	3	4	5	4	4	4	5	4	3	2	1			1	1	1	1	1	1	1	2	2.5	22	5
24	SUN	1	0	0	0	0	0	0	0	0	0	0	0	0	0			1	0	0	1	1	1	3	3	0.6	22	5
25	MON	4	2	1	1	1	1	2	3	6	7	7	4	3	2			3	3	3	2	1	1	1	1	2.6	22	8
26	TUE	1	1	0	0	1	1	3	6	9	5	3	2	2				2	2	2	2	1	1	1	1	2.2	21	9
27	WED	1	1	1	1	1	2	3	6	6	4	4	2	2	2		2	3	4	4	2	3	4	5	4	2.9	23	7
28	THU	4	4	3	4	4	6	20	28	30	32	33		16	7		3	5	7	6	4	2	2	1	1	10.0	22	40
MONTHLY MEAN		2	2	2	2	2	3	4	6	8	6	5	3	3	2			2	3	3	3	3	2	3	3	3.3		
NO. OF DAYS		20	20	20	20	19	19	19	19	19	17	16	17	18	17		6	18	20	20	20	20	20	20	20	424		
MAX. HRLY MEAN		7	11	16	16	14	13	20	28	30	32	33	5	16	7		3	6	13	11	8	9	7	8	8			

TABLE 3-42 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, MAY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	WED	0	0	0	0	0	0	2	3	3	2	2	1	1	1		0	0	0	1	1	1	10	15	19	2.7	23	21
2	THU	18	14	11	11	9	9	15	12	6	3	2	1	1	1		0	0	1	1	1	2	8	12	13	6.6	23	18
3	FRI	12	12	11	10	12	15	11	15	17	11	4	2	0	0		0	0	0	0	0	1	3	3	9	6.4	23	18
4	SAT	12	9	11	13	12	10	12	9	6	3	1	1	1	1		0	0	0	1	1	1	2	2	5	4.8	23	17
5	SUN	7	10	7	4	3	2	3	6	5	3	1	0	0	0			0	0	0	0	0	0			2.5	20	11
6	MON	0	0	0	0	0	0	1	2	3				0	0		1	1	1	1	1	1	3	3	3	1.1	20	4
7	TUE	3	2	1	4	6	8	11	16	12	5	2	1	1	1		0		2	1	1	2	3	4	4	4.1	22	17
8	WED	6	3	1	1	1	0	2	2	2	1	1	1	1	1		1	1	1	1	1	2	2	1	1	1.5	23	7
9	THU	1	1	1	0	0	0	1	2	2	2	2			1		0	0	0	0	1	1	0	1	1	0.7	21	3
10	FRI	0	1	1	1	1	1	2	1	1	1	1	1	0	1		1	1	0	0	0	0	1	1	1	0.8	23	2
11	SAT	1	1	1	1	1	0	0	1	1	2	2	2	2	2		1	1	1	1	1	1	1	1	1	1.1	23	2
12	SUN	1	0	0	0	0	0	0	1	0	0	1	1	1	1		1	1	1	1	1	1	1	1	1	0.7	23	2
13	MON	1	0	1	1	1	1	3	6	13	14	10	5	3	3		2	3	6	3	3	3	1	1	1	3.7	23	16
14	TUE	1	1	1	1	1	1	1	3	3	3	2		2	7		1	1	1	1	1	2	5	3	2	2.0	22	10
15	WED	1	1	1	1	1	1	2	3	3	2	1	2	2	1		1	1	1	1	3	3	2	3	2	1.7	23	4
16	THU	1	1	1	0	0	0	2	3	2	1	0	0	0	0		1	1	2	1	1	2	6	9	12	2.0	23	14
17	FRI	5	4	4	2	1	0	2	4	4	2	2	2	4	2				1	1	1	1	1	1	0	2.0	21	10
18	SAT	0	0	0	0	0	1	1	1	1	1	1	1	1	0		0	0	0	0	1	2	2	2	1	0.7	23	4
19	SUN	1	2	2	2	1	1	1	1	1	0	0	0	0	0			0	0	0	0	0	0	0	0	0.6	22	2
20	MON	0	0	0	0	0	0	1	2	3	2	1	1	1	1		1	1	1	1	1	2	5	6	7	1.7	23	8
21	TUE	8	7	12	6	6	7	7	9	6					1		0	1	1	1	0	1	1	1	1	3.9	19	13
22	WED	1	1	1	1	2	2	4	5	3			1	1	1		1	1	2	1	1	2	2	2	2	1.7	21	5
23	THU	2	3	8	6	5	4	5	6	4	2	1	1	1	1		1	1	1	1	1	2	2	2	1	2.6	23	9
24	FRI	1	1	0	0	0	0	1	2	2	1	1	1	1	0		0	1	1	1	1	4	6	8	15	2.1	23	18
25	SAT	16	16	10	7	5	2	2	2	1	1	1	1	1	1		0	0	1	0	1	1	2	1	2	3.2	23	20
26	SUN	2	1	1	1	1	0	0	0	0	0	0	0	0	0			0	0	1	1	1	1	1	0	0.5	22	2
27	MON	0	0	0	0	0	0	1	2	2	2	2	2	3	3		1	1	1	1	1	1	2	1	1	1.2	23	4
28	TUE	1	1	0	0	1	1	2	3	4		3	3	1	1		2	3	4	4	4	2	3	2	2	2.1	22	6
29	WED	1	1	1	2	2	2	3	3	2	1	1	1	1	1		1	1	1	1	1	1	3	2	8	1.8	23	13
30	THU	7	2	2	1	1	1	1	1	1	1	1	1	1	1		1	0	1	1	0	2	2	5	4	1.7	23	13
31	FRI	10	11	10	8	6	6	4	3	2	1	1	0	0	0		1	1	1	0	1	1	3	14	23	4.5	23	27
MONTHLY MEAN		4	3	3	3	2	2	3	4	4	2	2	1	1	1		1	1	1	1	1	1	3	4	5	2.3		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	27	28	27	29	31		27	29	31	31	31	31	31	30	30		692	
MAX. HRLY MEAN		18	16	12	13	12	15	15	16	17	14	10	5	4	7		2	3	6	4	4	4	10	15	23			

TABLE 3-41 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, APRIL 1963

DAY OF		A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR	MAX
1	MON	2	2	3	3	4	7	13	22	13	8			1	1	1	1	1	1	1	2	2	3	3	2	4.4	22	25
2	TUE	1	2	2	1	1	1	2	3	5	3	1	1	1	1	1	1	1	1					2	1	1.6	20	5
3	WED	1	1	1	1	1	1	2	4	4	1	0	0	0	0		0	0	0	0	0	0	0	0	0	0.7	23	4
4	THU	0	0	0	1	1	1	1	1	1	1	2	2	1												0.9	13	2
5	FRI																											
6	SAT	15	14	16	25	26	21	15	15	15	8	5	2	1	1			0	0	0	1	6	16	17	14	10.6	22	26
7	SUN	14	16	13	10	15	10	9	8	5	3	2	2	1	1			1	1	1	2	3	3	5	3	5.8	22	17
8	MON	2	1	1	1	1	1	1	4	6	5	4					2	4	11	12	17	12	6	3	2	4.7	20	22
9	TUE	1	1	1	2	2	2	2	4	5	3	3	2	1	1		0	0	0	0	0	0	0	0	0	1.2	23	5
10	WED	0	0	0	0	0	0	2	3	4	4	2	2	1	1		1	1	2	2	1	2	5	8	9	2.1	23	10
11	THU	4	2	1	1	1	1	2	4	5	4	2	2	1	0		0	0	0	0	0	1	3	2	1	1.6	23	6
12	FRI	1	1	1	7	11	11	16	20	18			2	1	1		0	0	0	0	0	0	1	3	6	4.7	21	20
13	SAT	3	6	5	4	2	1	1	1	1	1	1	1	1	1			0	0	0	0	0	0	1	1	1.4	22	7
14	SUN	1	1	1	1	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	1	1	1	0.3	23	1
15	MON	1	1	1	2	3	3	4	8	8	5	2	1	0	0		0	0	1	1	1	3	7	6	7	2.8	23	9
16	TUE	5	3	3	3	3	2	2	4	5							1	1	2	2	2	2	1	2	2	2.5	18	6
17	WED	1	1	1	1	0	0	2	1	1	1	0	0	0	0		0	0	0	0	0	0	0	0	0	0.4	23	2
18	THU	0	0	0	0	0	0	2	2	3		0	0	0	0		0	0	0	0	0	2	2	1	1	0.6	22	3
19	FRI	0	0	0	1	0	1	1	3	4	2	1	1	0	0		0	0	1	1	1	1	0	0	0	0.7	23	4
20	SAT	0	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	1	7	9	9	10	1.6	23	13
21	SUN	10	9	6	4	3	1	1	1	1	1	1	1	0	0			0	0	0	0	2	2	1	0	2.0	22	11
22	MON	0	0	0	0	0	0	0	1	3	3			1	1		1	1	1	1	1	1	2	3	2	1.1	21	4
23	TUE	1	1	0	0	0	0	0	0	0	0	0	0	0	0		0	1	1	1	1	1	1	1	1	0.4	23	1
24	WED	1	0	0	0	0	0	2	4	4		1	1	1	0		0	0	1	1	1	1	2	2	1	1.0	22	4
25	THU	1	1	1	1	1	1	1	3	3	1	1	1	0	0		0	0	1	1	0	0	0	1	1	0.9	23	4
26	FRI	0	0	2	8	7	9	10	15	16	7	2	1	1	1		0	1	1	1	1	1	4	4	5	4.2	23	20
27	SAT	12	14	13	15	16	15	16	18	15	4	2	1	1	0		0	0	0	0	0	0	0	0	0	6.1	23	20
28	SUN	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	1	1	1	1	1	0.2	22	1
29	MON	1	1	0	0	0	0	0	2	4	3	3	3				2	4	5	6	3	3	2	3	2	2.1	21	6
30	TUE	2	2	2	2	1	2	2	2								0	0	1	1	1	1	1	1	1	1.3	17	2
MONTHLY MEAN		3	3	3	3	3	3	4	5	5	3	1	1	1	0		0	1	1	1	1	2	3	3	3	2.3		
NO. OF DAYS		29	29	29	29	29	29	29	29	28	24	24	24	25	24	2	23	28	28	27	27	27	27	28	28		626	
MAX. HRLY MEAN		15	16	16	25	26	21	16	22	18	8	5	3	1	1	1	2	4	11	12	17	12	16	17	14			

TABLE 3-44 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis)

CINCINNATI, JULY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED																											
4	THU																											
5	FRI																											
6	SAT		5	7	7	10	7	5	3	3	4	4	2	3	2		1	1	1	1	1	1	1	1	1	3.2	22	12
7	SUN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			0	0	0	0	1	2	2	4	1.0	22	6
8	MON	2	0	0	0	0	1	1	2	2				0	1		1	1	1	1	1	1	1	1	0	0.9	20	4
9	TUE	0	0	0	0	0	0	1	4	4	2	2	2	0	1		0	1	1	0	0	1	2	1	1	1.0	23	6
10	WED	0	0	0	0	0	1	7	7		1	1	0	0	0		0	1	1	1	1	1	1	7	8	1.7	22	9
11	THU	9	4	5	3	5	6	9	13	12	3	1	1	1	0		0	1	1	1	1	2	3			3.8	21	17
12	FRI										3	1	1	1	1		1	1	1	1	1	2	3	6	9	2.1	14	11
13	SAT	14	12	7	7	6	5	4	5	5	3	2	1	1	1		2	2	1	2	1	1	1	1	1	3.7	23	18
14	SUN	1	1	1	1	1	1	1	1	1	1	1	0	1	1		0	0	0	0	1	1	2	1	1	0.7	23	2
15	MON	1	1	1	1	1	1	2	4	4	3						1	1	2	1	1	3	4	7	6	2.3	19	9
16	TUE	3	1	1	1	1	1	4	5	3	2		1	1	1		1	2	2	1	1	1	3	4	4	2.0	22	10
17	WED	4	2	1	2	1	2	3	3	3	2	1	2	1	1		1	1	2	2	1	2	2	2	3	1.8	23	5
18	THU	2	1	1	1	1	1	2	3	3	2	2	2	1	1		1	1	1	1	2	2	1	1	2	1.4	23	4
19	FRI	2	2	2	2	1	1	2	3	3	3	2	1	1	0		0	0	0	0	0	0	0	0	0	1.0	23	3
20	SAT	0	0	0	0	0	0	0	1	1	1	1	0	0	0		0	0	1	1	1	1	1	1	1	0.5	23	2
21	SUN	2	2	1	2	2	1	2	2	2	1	1	0	1	1		0	1	1	1	1	1	2	3	4	1.4	23	4
22	MON	4	3	3	3	3	3	4	6	4	2			1	0		1	1	1	1	1	1	2	2	3	2.3	21	6
23	TUE	3	3	4	3	3	3	4	7	6	3	1	0	1	0		2	2	3	2	2	2	3	3	4	2.9	23	9
24	WED	7	6	5	4	4	4	4	5	4	2	1	1	1	1		1	1	1	1	1	1	1	2	1	2.5	23	7
25	THU	1	1	1	1	1	1	2	2	3	2	1	1	1	1		1	1	1	1	1	1	2	2	2	1.2	23	4
26	FRI	1	1	1	1	2	2	3	3	2	2	1	1	1	1		1	2	3	4	3	5	3	2	2	2.0	23	9
27	SAT	2	2	1	1	1	3	3	4	2	1	0	1	1	1		1	1	1	1	2	1	2	3	3	1.5	23	4
28	SUN	3	3	3	3	3	1	1	1	1	1	0	0	1	1		0	0	0	1	1	1	1	1	1	1.2	23	4
29	MON	2	1	1	1	1	1	4	4	2	1			2	1		2	1	1	1	1	1	1	1	2	1.5	21	6
30	TUE	2	2	2	2	2	4	4	10	6	3	2	1	1	1		0	0	0	0	0	0	4	9	11	2.9	23	12
31	WED	9	2	7	1	3	1	2	3	4	3	0	1	0	0		0	0	1	0	1	1	1	1	1	1.8	23	10
MONTHLY MEAN		3	2	2	2	2	2	3	4	3	2	1	1	1	1		1	1	1	1	1	1	2	3	3	1.9		
NO. OF DAYS		24	25	25	25	25	25	25	25	24	25	21	22	25	25		25	26	26	26	26	26	26	25	25		572	
MAX. HRLY MEAN		14	12	7	7	10	7	9	13	12	4	4	2	3	2		2	2	3	4	3	5	4	9	11			

TABLE 3-43 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, JUNE 1963

DAY	OF	A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR.	MAX.
1	SAT	22	22	16	8	16	16	17	11	4	2	2	0	1	0		0	1	1	1	1	1	5	11	18	7.6	23	24
2	SUN	13	12	12	14	14	16	14	7	5	3	1	0	0	0			0	0	0	1	1	1	3	7	5.6	22	18
3	MON	10	8	5	5	6	6	6	6	5	3				1		1	3	3	2	2	2	1	2	2	3.9	20	10
4	TUE	2	1	1	1	1	1	3	3	3							2	1	2	1	2	2	1	1	1	1.6	18	4
5	WED	1	1	1	0	0	1	2	3	2	1	1	1	1	1		0	1	1	1	1	1	1	2	2	1.1	23	3
6	THU	3	3	2	2	2	5	7	6	3	2	1	1	0	1		3	3	4	3	1	2	1	2	3	2.5	23	8
7	FRI	3	4	4	4	3	2	4	7	4	2	1	1	1	1		0	1	4	4	4	4	6	10	10	3.6	23	11
8	SAT	8	7	6	7	6	6	6	4	2	2	1	0	0	0											4.0	14	9
9	SUN																											
10	MON																											
11	TUE	1	1	1	1	1	0	1	1	1	1	1	1	0	0		0	0	0	0	0	0	0	1	0	0.5	23	1
12	WED	0	0	0	0	0	0	2	2	2		0	0	0	0	0	0	0								0.4	16	4
13	THU										2	1	0	0	0		1	1	1	1	1	1	1	1	2	1.0	14	4
14	FRI	1	1	0	0	1	1	2	4	3	2	1	1	0	0		1	1	1	0	1	1	1	1	2	1.0	23	4
15	SAT	1	1	1	1	1	1	2	3	3	1	1	1	1	1		1	1	1	1	1	1	1	1	5	1.3	23	9
16	SUN	8	5	5	7	6	3	7	2	1	1	0	0	0	0			0	0	0	1	1	1	2	2	2.4	22	10
17	MON	2	3	3	3	3	3	7	8	6	2	1	1	1	1		1	1	1	1	2	3	5	7	10	3.1	23	12
18	TUE	9	10	10	10	10	11	16	24	16	6			1	0		0	1	1	0	0	1	5	12	12	7.4	21	26
19	WED	11	9	8	6	7	7	16	17	6	4	4	2	0	0		1	1	1	1	1	1	2	2	3	4.7	23	21
20	THU	1	1	1	1	2	2	2	2	2	2	2	2	1	2		2	2	2	2	3	3	3	3	3	2.0	23	4
21	FRI	2	2	2	1	1	1	2	3	3	2	2					1	1	1	1	0	1	2	8	18	2.7	20	21
22	SAT	17	16	18	17	14	15	17	14	5	1	0	0	0	0		0	0	0	1	0	1	1	1	6	6.2	23	19
23	SUN	13	3	10	14	13	12	10	6	1	1	0	0	0	1		0	0	1	1	1	1	5	15	17	5.4	23	18
24	MON	16	10	11	10	10	9	16	15	3	2	1	1	1	0		1	0	1	0	0	1	4	7	10	5.7	23	21
25	TUE	13	10	7	8	12	14	17	16	11	2	1	0	1	0		0	0	1	1	1	1	3	7	9	5.8	23	20
26	WED	7	5	5	5	8	10	12	14	9	2	1	1	0	1		1	1	1	0	1	1	1	5	5	4.1	23	16
27	THU	6	3	5	4	5	5	10	11	7	4	2	1	1	1		1	1	1	1	1	1	2	3	2	3.4	23	12
28	FRI																											
29	SAT																											
30	SUN																											
MONTHLY MEAN		7	6	5	5	6	6	8	8	4	2	1	1	0	0		1	1	1	1	1	1	2	5	7	3.5		
NO. OF DAYS		24	24	24	24	24	24	24	24	24	23	22	21	22	23	1	22	24	23	23	23	23	23	23	23		535	
MAX. HRLY MEAN		22	22	18	17	16	16	17	24	16	6	4	2	1	2	0	3	3	4	4	4	4	6	15	18			

TABLE 3.46 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, SEPTEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	12	11	10	12	10	9	9	9	7	4	1	1	1	1			1	1	1	1	2	9	15	18	6.6	22	19
2	MON	19	13	11	12	10	11	13	8	5			2	1	1		1	1	1	1	1	2	2	2	2	5.6	21	20
3	TUE	1	2	2	2	1	2	2	2	2	2	1	1	1	1		3	3	3	3	3	3	3	4	4	2.2	23	4
4	WED	3	3	3	3	3	2	2	3	3	2	2	1	1	1		1	1	1	1	1	1	1	1	2	1.8	23	4
5	THU	2	2	2	2	2	2	2	4	5	5	3	2	1	1		1	1	2	2	2	3	3	3	3	2.4	23	5
6	FRI	3	2	4	5	5	4	5	9	11	7	4	2	2	1		0	0	0	0		5	7	9	10	4.3	22	12
7	SAT	10	8	8	8	8	7	7	9	8	3	1	1	0	0		0	0	0	1	1	3	5	5	7	4.3	23	11
8	SUN	9	7	6	5	6	5	5	3	2	1	1	0	0	0		0	0	0			1	1	1	2	2.6	21	10
9	MON	5	4	5	3	3	5	8	13	18	8	3	1	1	1			1	1	1	1	4	12	14	12	5.7	22	20
10	TUE	12	9	8	7	6	7	11	18	16				1	1		1	0	1	1	0		1	1		5.7	18	22
11	WED	1		1	1	0	0	7	7	5	3	2	1	0	1		1	3	2	2	3	4	2	2	1	2.3	22	13
12	THU		1		1	1			3	3	2	2	2	2	2		4	4	5	3	3	3	3	3	3	2.6	19	6
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI	1	0	0	0	0	1	2	4	4							1	1	3				1	2	3	1.5	15	4
21	SAT	3	2	1	1	1	1	2									0	0	0	1	3	4	5	6	2	2.0	16	7
22	SUN	1	1	2	3	1	0	0	0	0	0								0	0	1					0.7	13	3
23	MON	1			0	0	0	0	1	4	6	4					0	1	1	1	1	1	1	1	1	1.3	18	6
24	TUE	1	0	0	0	0	0	1	7	10	5	2	1	1	1		0	1	3	5	5	3	4	2		2.3	22	11
25	WED	9	19	25	21	20	21	19	23	15	9	6									4	4	8	8	8	13.7	16	25
26	THU	10	10	7	7	8	8	12	18	20	17	10	2	1					1	3	8	12		12	10	9.1	19	21
27	FRI	11	8	8	7	7	8	12	18	19	13	5	1	1		0			1	2	4		6	6	4	7.0	20	20
28	SAT																											
29	SUN																											
30	MON																											
MONTHLY MEAN		6	6	6	5	5	5	6	8	8	5							1	1	2	3	3	4	5	5	4.2		
NO. OF DAYS		19	18	18	20	20	19	19	19	19	16	15	14	15	13	1	14	16	19	17	17	16	18	19	17		398	
MAX. HRLY MEAN		18	19	25	21	20	21	19	23	20	17	10	2	2	2	0	4	4	5	5	8	12	12	15	18			

TABLE 3.45 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, AUGUST 1963

DAY OF MONTH	DAY OF WEEK	A M 12	1	2	3	4	5	6	7	8	9	10	11	P M 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HRS	1-HR MAX
1	THU	1	1	1	1	1	4	2	2	2	1	1	1	1	1		0	1	1	1	1	2	2	3	2	1.3	23	4
2	FRI	3	2	4	3	5	5	7	13	5	4	2	1	0	0		0	1	2	1	1	1	1	1	1	2.9	23	13
3	SAT	2	1	2	1	1	1	1	1	1	1	0	0	0	0		0	0	0	0	0	0	0	1	1	0.8	23	3
4	SUN																											
5	MON										2	1	1	1	0		0	1	0	0	0	1	2	2	1	0.9	14	3
6	TUE	1	2	1	0	0	1	5	4	5		2	2	2	0		0	1	1	0	0	0	1	0	0	1.3	22	5
7	WED	1	0										1	0	0		1	1	1	0	0	1	1	1	1	0.6	14	2
8	THU	1	1	1	1	1	1	3	5	3	2	1	0	0	0		0	1	1	0	0	1	3	4	5	1.6	23	8
9	FRI	4	4	5	5	5	4	5	12	4	1	0	0	0	0		1	1	1	0	1	1	1	1	4	3.0	23	13
10	SAT	3	5	3	1	0	1	1	1	1	1	0	0	0	0		0	0	0	0	1	1	1	3	13	1.6	23	14
11	SUN	11	11	19	14	12	13	13	12	7	2	0	0	0	0			0	0	0	0	0	0	1	2	5.2	22	19
12	MON	1	0	0	0	0	4	3	2	2							1	1	3	1	1	1	1	1	1	1.3	18	5
13	TUE	1	1	1								1	1	0	0		0	0	0	0	1	1	1	1	1	0.6	14	1
14	WED	1	1	1	1	1	1	2	3	4	2	2	1	1	1		1	1	2	1	2	2	2	3	4	1.8	23	4
15	THU	5	4	3	3	4	5	10	11	5	1	1	1	0	1		0	1	1	0	0	1	2	4	7	3.1	23	13
16	FRI	8	4	7	4	11	7	10	13	11	4	1	1	1	1		0	1	1	1	1	1	1	2	1	4.5		16
17	SAT	1	1	1	1	1	0	1	1	1	0	0	0	0	0		0	0	0	0	0	1	0	1	1	0.6	23	2
18	SUN	1	1	1	1	1	1	1	1	1	0	0	0	0	0		0	0	0	0	1	0	0	1	0	0.5	23	1
19	MON	0	0	0	1	0	0	0	1	2	1			3	4		3	3	4	4	3	3	3	2	2	1.9	21	4
20	TUE	2	1	1	0	1	1	2	3	4	3			2	2		2	2	3	2	1	1	7	14	15	3.3	21	16
21	WED	16	13	12	11	13	13	16	20	23	16	5	1	0	0		0	1	1	0	1	3	7	10	9	8.6	23	24
22	THU	16	15	15	15	16	12	11	24	25	12	4	2	0	1		0	1	1	1	1	2	5	4	7	8.0	23	28
23	FRI	7	7	4	4	5	5	5	17	12	5	2	1	1	1		0	0	1	1	1	1	4	3	7	4.7	23	18
24	SAT	7	4	7	8	8	7	4	7	4	2	1	1	1	1		1	1	0	0	0	1	2	1	1	3.2	23	8
25	SUN	1	1	1	1	1	0	0	0	1	1	1	1	1	1	0										0.7	15	2
26	MON																											
27	TUE	4	4	5	4	3	3	5	4	5	4	3	1	0	0											4.1	14	5
28	WED																											
29	THU																											
30	FRI																											
31	SAT	4	10	10	10	4	7	4	4	3	2	1	1	1	1	1	1	1	1		1	2	4	12	12	4.6	23	14
MONTHLY MEAN		4	4	4	4	4	4	5	7	6	3	1	1	1	1	2	1	1	1	1	1	1	2	4	4	2.9		
NO OF DAYS		25	25	24	23	23	23	23	23	23	22	22	23	25	25	2	23	24	24	23	24	24	24	24	24		565	
MAX HRLY MEAN		16	15	17	15	16	13	18	26	25	19	4	2	3	4	1	3	3	4	5	3	3	7	14	15			

TABLE 3-48 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, NOVEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-HR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	1	1	1	1	1	2	3	5	4	3	2	2	3	3		1	3	4	3	4	3	3	4	3	2.6	23	7
2	SAT																											
3	SUN																											
4	MON	3	2	5	4	3	4	5	8	13	11										2	2	1	1	1	4.2	15	15
5	TUE	0	0	0	0	0	0	1	2	3	3	5	4	5	5		3	5	6	4	3	2	2	2	3	2.4	23	7
6	WED	2	2	2	2	2	2	3	6	7	7	4	4	4	3		2	4	4	3	3	2	2	2	2	3.1	23	9
7	THU	1	1	1	1	1	1	2	3	3	2	2	2	1	1		3	3	5	5	5	4	4	3	3	2.4	23	6
8	FRI	2	2	1	1	1	2	3	4	4	4	3	2	2	2		2	2	4	7	9	14	12	10	9	4.4	23	20
9	SAT	10	12	9	10	7	8	11	12	13	12	10	8	4	2		2	2	4	6	4	3	8	12	13	7.8	23	14
10	SUN	16	12	10	9	8	8	7	7	5	5	4	4	2	2			1	1	3	7	7	7	5	2	6.0	22	19
11	MON	2	2	3	3	3	4	6	7	7			2	2	1		1	1	2	2	2	1	2	2	1	2.7	21	9
12	TUE	1	1	2	1	1	1	2	4	4	3			2	1		1	1	2	3	2	1	2	[illegible]	2	1.9	21	6
13	WED																											
14	THU																											
15	FRI	4	3	3	4	3	4	5	7	10		5	3	2	2		1	3	4	5	4	5	6	6	5	4.3	22	13
16	SAT	3	3	2	2	1	1	1	1	3	3	4	4	2	2		1	2	4	4	2	3	2	2	2	2.3	23	5
17	SUN	2	3	2	1	1	1	1	1	1	1	1	1	1	0		1	1	1	1	2	1	1	1	1	1.1	23	3
18	MON	1	0	0	0	0	0	1	1	2			2	3	3		2	2		0	7	8	7	8	9	2.9	20	12
19	TUE	8	13	7	6	6	7	13	23	25	15	14	11	7	5		9	10	12	12	10	7	5	3	2	9.9	23	28
20	WED	2	1	1	1	1	1	5	8	10	10	8	5	4	4		3	4	4	3	2	3	3	3	3	3.7	23	12
21	THU	2	1	1	2	2	4	5	9	9	9			3	4		3	4	5	3	4	3	4	5	5	4.1	21	12
22	FRI	3	3	3	2	2	2	4	9	9	8	8	7	4	3		2	3	2	2	2	2	1	1	2	3.5	23	10
23	SAT	1	1	0	1	0	0	0	1	1	1	1	2	2	2		2	2	2	2	2	2	2	2	2	1.3	23	3
24	SUN	2	2	3	3	3	3	3	5	3	3	3	2	3	2		1	2	2	5	14	17	17	11	15	5.3	23	19
25	MON	14	12	5	2	2	1	1	3	3	4	4	4	2	3		2	4	7	6	4	4	6	7	8	4.6	23	16
26	TUE																											
27	WED										6	4	3	3	2		1	2	8	7	7	8	9	9	7	5.5	16	12
28	THU	10	6	6	7	8	7	5	3	3	4	4	4	3	2		1	1	2	3	4	3	3	3	1	4.0	23	12
29	FRI	1	1	1	1	1	1	2	2	2	2	3	3	2	3		2	3	2	1	1	2	1	1	2	1.7	23	4
30	SAT	1	1	1	1	1	1	1	1	2	2	2	3	3	2		2	2	2	2	2	3	2	2	2	1.8	23	3
MONTHLY MEAN		4	4	3	3	2	3	4	5	6	5	5	4	3	2		2	3	4	4	4	4	4	4	4	3.7		
NO. OF DAYS		24	24	24	24	24	24	24	24	24	22	20	22	24	24		23	24	23	24	25	25	25	25	25		567	
MAX. HRLY MEAN		16	13	10	10	8	8	13	23	25	15	14	11	7	5		9	10	12	12	14	17	17	12	15			

TABLE 3.47 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, OCTOBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-HR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN																											
2	MON	6	6	6	5	5	5	3	5	4	2	1	1	1	0		0	1	1	1	1	1	1	1	1	2.5	23	7
3	TUE																											
4	WED	5	4		1	2	2	5	7	7	6	3	2	2	1	0	0	0	0	1	3	12	15	18	19	4.9	23	19
5	THU	18	14	10	8	7	6	4	3		9	4	2	1	0		0	0	0	2	9	13	11	10	9	6.3	22	18
6	FRI	7	6	5	4	4	3	2	2	7	4	4	2	1	1			0	0	2	2	1	2	5	9	3.3	22	12
7	SAT	7	4	5	3	3	2	5	5	6	3	1	0	0	0		0	0	0	0	0	0	0	0	0	1.9	23	8
8	SUN	0	1	1	0	0	0	1	3	3	2			1	1		1	1	3	3	5	5				1.7	18	6
9	MON																											
10	TUE																											
11	WED	4	1	0	0	0	0	1	5	2	2	1	1	1	0		0	0	2	4	6	7	6	3	3	2.1	23	8
12	THU	1	0	0	0	0	0	1	2	1	1	1	0	0	0		0	0	0	0	1	3	1	1	2	0.6	23	3
13	FRI	1	1	1	1								1	0	0		0	0	1	1	2	2	6	13	16	2.8	16	17
14	SAT	17	16	14	10	12	12	14	20	23					0		0	0	0	5	18	22	22	17	25	12.9	19	26
15	SUN	17	13	12	7	7	8	17	17	19	10	3	1	0	0			1	2	5	12	17	15	17	14	9.6	22	26
16	MON	12	10	8	7	6	7	10	18	17	8	4	1	1	1		0	1	3	5	13	13	10	14	12	7.8	23	21
17	TUE	14	11	10	9	8	7	10	15	20	15	11	3					1	2	9	17	17	15	17	13	11.1	20	22
18	WED	12	11	9	9	7	7	10	16	23	15	8	8	2	1			2	6	14	23	29	22	25	21	12.6	22	32
19	THU	17	15	14	13	11	10	10	15	12	7	5	3	1	1		1	1	2	3	7	26	47	50	29	13.0	23	54
20	FRI																											
21	SAT																											
22	SUN																											
23	MON																											
24	TUE	12	12	8	7	8	7	8	9	6	4	2	1	1	0		1	2	3	3	3	3	9	11	11	5.7	23	16
25	WED	11	9	11	8	6	7	8	13	15	14	5	3	2	1		1	1	2	3	4	4	7	11	13	6.9	23	18
26	THU	11	10	10	9	8	6	8	9	9	7	2	0	0	0		0	0	0	1	0	1	1	3	7	4.5	23	13
27	FRI	7	5	4	3	3	3	4			2	1	0	0	0		1	1	1	2	2	2	2	2	2	2.2	21	9
28	SAT	1	2	2	2	2	2	3	5	6				1	2		2	2	2	1	0	0	0	1	2	1.9	20	7
29	SUN	1	2	1	1	1	1	1	3	4	2	2	2	1	1		2	2	3	4	4	5	5	4	4	2.5	23	6
30	MON	3	3	3	2	3	3	6	9	11	10	6	4	4	3											4.9	14	12
31	TUE									7	6	3	5	2	2		4	6	7	10	8	6	13	10	2	6.0	15	16
MONTHLY MEAN		8	7	6	5	5	5	6	9	10	6	3	2	1	1		1	1	2	3	6	9	10	11	10	5.6		
NO. OF DAYS		22	22	21	22	21	21	21	20	20	20	19	20	21	22	1	18	22	22	22	22	22	21	21	21		484	
MAX. HRLY MEAN		18	16	14	13	12	12	17	20	23	15	11	8	4	3	0	4	6	7	14	23	29	47	50	29			

TABLE 3-50 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, JANUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON	3	2	1	1	1	2	1	1	1	1	1	2	1	3											1.5	14	5
2	TUE																											
3	WED																											
4	THU	3	2	2	2	2	2	1	1										5	5	5	4	6	5	4	3.2	15	7
5	FRI	3	3	2	2	1	1	1	1					0	0					4	4	4	4	4	4	2.3	16	4
6	SAT	4	4	4	3	3	3	3	3	4	4	4	4	5	4		1	2	3							3.4	17	5
7	SUN																											
8	MON																											
9	TUE																											
10	WED																											
11	THU																											
12	FRI																											
13	SAT																											
14	SUN	4	3	3	3	3	3	3	3	4	4	4	3	4	4		3	4	5	5	5		7	7	7	4.1	22	8
15	MON	7	7	7	6	6	4	4	4	2	1	1							3	3	3	3	3	3	3	3.9	18	7
16	TUE	3	3	3	3	3	3	4	4	4	5	4	3	3	3				4	5	5	5	5	5	5	3.8	21	5
17	WED	4	4	4	4	4	4	4	5	5	6	6	5	5	4		5	5	5	5	5	5	5	5	5	4.8	23	6
18	THU	5	5	5	5	4	4	4	4	4	4	4	4	2	3		4									4.0	15	5
19	FRI																											
20	SAT							3	3	3	3	4	4	5	6		7	7	7	6	6	5	5	5	5	4.9	17	7
21	SUN	5	5	4	4	3	3	2	2	2	2	2	2	2	2		2	2	2	3	3	3	3	3	3	2.8	23	5
22	MON																											
23	TUE																											
24	WED																											
25	THU	1	1	1	0	0	0	1		1	2	2						2	2	2	2	2	2	2	2	1.4	18	3
26	FRI	2	2	2	1	1	1	1	1	1	1	1	1	1	1		1	1	2	2	2	2	2	1	1	1.4	23	3
27	SAT	1	1	1	1	1	1	1	1	1	2	2	2	1	1		1	1	1	1	1	1	1	1	1	1.2	23	2
28	SUN	1	1	0	1	1	1	0	0	0	0	0	0	0	0											0.4	14	1
29	MON																											
30	TUE	2	2	2	2	2	2	3	3	3	3								2	2	2	2	2	2	2	2.3	17	3
31	WED	2	2	2	2	2	2	2	2	2					2	0	2	3	3	3	3	3	3	3	3	2.3	20	3
MONTHLY MEAN		3	3	3	2	2	2	2	2																			
NO. OF DAYS		16	16	16	16	16	16	17	16	15	14	13	11	12	13	1	9	9	13	13	13	12	13	13	13		316	
MAX. HRLY MEAN		7	7	7	6	6	4	4	5	5	6	6	5	5	6	0	7	7	7	6	6	5	7	7	7			

TABLE 3.49 HOURLY AVERAGES OF NITRIC OXIDE, pphm (colorimetric analysis) CINCINNATI, DECEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	2	1	1	1	1	1	1	2	2	2	1	1	1	1			1	3	3	2	2	2	2	2	1.5	22	3
2	MON	1	1	1	1	1	1	1	3	3	3	2	2	2	2		3	4	4	4	3	2	3	2	2	2.2	23	5
3	TUE	2	2	1	1	1	1	1	3	3	4	4	4	4	4		4	5	5	3	3	3	3	2	2	2.8	23	6
4	WED	2	3	1	1	1	1	2	4	5							2	3	3	2	2	2	2	2	1	2.1	18	6
5	THU	1	1	1	1	1	1	2	3	3	2	3	3	3	3		3	4	6	5	3	4	4	4	2	2.7	23	6
6	FRI	3	2	2	3	3	3	4	6	8	5	4	4	3	3		3	4	5	5	3	4	3	4	3	3.7	23	9
7	SAT	4	5	4	4	2	2	2	3	3	4	3	2	2	2		2	2	3	3	2	2	2	1	1	2.7	23	5
8	SUN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1	1	1	2	1	1	1	1	1.1	22	2
9	MON	1	1	1	1	1	1	1	1	2			2	2	2		2	2	2	1	2	1	2	2	2	1.5	21	3
10	TUE	1	1	1	1	1	1	2	2	3	3	3	3	2	2		3	5	5	3	5	4	3	3	2	2.5	23	8
11	WED	2	1	1	1	1	1	1	2	4	3	2	2	2	2				3	3	2	1	1	1	1	1.8	21	5
12	THU																											
13	FRI																											
14	SAT	1	1	1	1	1	1	1	1	2	3	3	3	2	1		1	2	3	3	2	3	2	2	2	1.6	23	4
15	SUN	2	1	1	1	1	1	2	1	1	2	2	2	2	2			1	1	2	3	2	1	1	1	1.4	22	3
16	MON	1	1	1	1	0	0	2	3	5	7			5	7		2	4								2.7	14	8
17	TUE																											
18	WED																											
19	THU	1	1	1	2	2	1	1	2	4	4	3	3	2	2		2	3	4	3	3	2	2	2	2	2.3	23	4
20	FRI	1	1	1	1	1	2	2	5	6	6	6	4	3	2		1	2	2							2.7	17	7
21	SAT																											
22	SUN	6	3	3	2	2	1	1	2	3	3	3	3	2	2			2	3	3	4	2	2	1	2	2.5	22	8
23	MON	2	2	1	1	1	1	2	2	5	8	7	8	7	7		4	5	6	6	6	5	5	5	3	4.4	23	9
24	TUE	2	1	1	1	1	1	1	1	3	4	3	2	2	2		2	3	2	2	2	1	1	1	1	1.8	23	6
25	WED	1	1	1	0	0	1	1	2	3	2	2	2	1	1		1	2	3	3	3	3	3	3	3	1.8	23	4
26	THU	2	1	1	1	0	0	0	1	1				1	1		1	1	2	3	2	2	2	1	1	1.2	20	3
27	FRI	1	1	1	1	1	1	2	3	3	2	2	2	2	2		2	2	2	2	2	2	2	1	2	1.7	23	4
28	SAT	1	1	2	1	1	1	1	1	2	2	2	2	1	3		2	2	3	5	8	9	10	7	7	3.2	23	12
29	SUN	7	6	4	2	2	1	3	2	2	2	2	2	2	2			1	2	2	2	2	1	1	2	2.3	22	9
30	MON	1	1	1	1	1	2	3	6	11	18	19	14				4	5	5	7	7	5	5	4	2	5.8	21	20
31	TUE	2	2	1	2	2	2	3	4	6	8	7	5	4	3		2	3	4	3	2	3	3	3	3	3.4	23	10
MONTHLY MEAN		2	2	1	1	1	1	2	2	4	4	4	3	2	3		2	3	3	3	3	3	3	2	2	2.4		
NO. OF DAYS		26	26	26	26	26	26	26	26	26	23	22	23	24	24		20	25	25	24	24	24	24	24	24		564	
MAX. HRLY MEAN		7	6	4	4	3	3	4	6	11	18	19	14	7	7		4	5	6	7	8	9	10	7	7			

TABLE 3-52 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, MARCH 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-HOUR MAX
1	THU	2	2	1	1	2	2	2	3	3	3	3	3	2	2		4	4	4	4	3	3	3	3	3	2.6	23	4
2	FRI	2	2	1	1	2	2	2	2	2	2	1	2	2	2		2	3	3	3	3	3	3	3	3	2.2	23	3
3	SAT	3	3	3	3	3	2	3	3	3	2	2	3	3	3		3	4	4	4	5	5	5	5	5	3.4	23	5
4	SUN	5	4	4	4	3						4	4	4	4		3	3	4	4	5	5	5	4	3	4.0	18	5
5	MON	3	3	3	3	3	2	2	2	2	2	2	3	3	3		4	3	5	5	5	4	4	4	4	3.2	23	5
6	TUE	4	3	3	3	3	3	3	4	4	4	4	4	4	4		5	5	5	5	5	5	4	4	4	4.0	23	5
7	WED	4	3	3	2	2	3	4	4	4	4	4	4	5	4		4	4	5	4	6	7	7	6	5	4.2	23	7
8	THU	5	4	4	4	4	3	5	5	5	5						3	4	5	5	6	5	5	4	3	4.3	19	6
9	FRI	3	3	3	3	3	3	5	5	7	7	7	6	5	5		5	5	5	5	5	4	4	4	4	4.6	23	7
10	SAT	4	4	4	4	4	4	4	4	4	4	4	4	4	4		3	4	4	5	5	5	6	4	4	4.2	23	6
11	SUN	4	4	4	3	3	3	3	3	3	3	4	4	4	4		5	5	5	5	5	5	4	4	2	3.8	23	5
12	MON	2	3	4	4	4	4	4	4	5	4	4	4	3	3		3	4	4	4	4	3	2	3	2	3.5	23	5
13	TUE	2	2	2	3	2	2	2	3	4	5	4	3	3	3		3	4	4	4	4	3	2	2	2	2.9	23	6
14	WED	2	2	1	1	1	1	2	2	3	3	4	4	6	5		3	4	5	5	5	4	4	5	6	3.4	23	6
15	THU	5	5	5	3	3	3	4	5	5	5	4	4	4	5		4	7	7	6	5	4	4	6	6	4.7	23	10
16	FRI	5	4	5	4	4	5	5	4	5	5	4	4	4	4		3	3	4	4	4	3	4	4	4	4.1	23	5
17	SAT	4	3	3	4	4	4	4	4	5	4	3	3	3	3		4	4	5	5	5	5	5	6	6	4.2	23	6
18	SUN	6	6	6	6	6	6	6	6	6	6	4	3	3	2		2	2	3	3	6	8	8	8	9	5.2	23	10
19	MON	9	8	7	7	6	6	6	8	8	9								4	4	4	4	6	4	4	6.2	17	11
20	TUE	4	3	3	3	3	3	6	6	6	6	6	5	4	4			5	6	6	5	5	5	4	4	4.6	22	8
21	WED	3	2	2	3	2	4	5	5	5	5									6	5	5	5	5	4	4.1	16	6
22	THU	3	3	3	3	2	2	3	4	4	4	3	3	3	3		4	4	5	4	4	3	3	3	4	3.3	23	5
23	FRI	3	3	3	2	2	2	3	3	3	3						6	7	7	6	6	6	6	6	5	4.3	19	7
24	SAT	5	4	5	3	3	4	3	4	5	6	4	3	2	2		2	3	3	3	4	5	4	3	3	3.6	23	6
25	SUN	3	3	2	2	2	2	2	2	2	2	2	2	2	2			3	3	3	3	4	4	4	3	2.5	27	4
26	MON	3	2	2	2	2	2	3	4	4	4	4	4	4	4				6	5	6	5	4	4	4	3.8	21	7
27	TUE	5	4	4	4	3	3	4	4	5	7	6	4	3	3		2	3	3	3	5	6	7	5	5	4.2	23	8
28	WED	4	4	4	3	3	3	3	4	4			4	4	5		4	5	5	5	5	5	4	4	5	4.2	21	6
29	THU	4	3	3	3	4	3	4	6	6	4	3	3	3	2		3	4	4	3	5	4	3	3	4	3.6	23	6
30	FRI	3	1	2	1	1	1	3	3	3	3	3	3	3	3		3	3	4	4	4	3	3	3	3	2.7	23	5
31	SAT	3	3	3	2	2	2	3	4	4	3	3	4	4	4		4	4	4	4	5	4	3	3	3	3.4	23	5
MONTHLY MEAN		4	3	3	3	3	3	4	4	4	4	4	4	3	3		3	4	5	4	5	4	4	4	4	3.8		
NO. OF DAYS		31	31	31	31	31	30	30	30	30	29	26	27	27	27		26	28	30	31	31	31	31	31	31		681	
MAX. HRLY MEAN		9	8	7	7	6	6	6	8	8	9	7	6	6	5		6	7	7	6	6	8	8	8	9			

TABLE 3-51 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, FEBRUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3		3	3	4	5	5	4	4	4	4	3.4	23	5
2	FRI	4	3	3	2	2	2	2	4	4	5			3	3		4	4	4	4	4	4	3	3	3	3.3	21	8
3	SAT	3	3	3	3	3	3	3	3	3	3	3	3	2	3		3	4	5	5	5	5	5	5	5	3.6	23	6
4	SUN	5	4	4	4	3	3	3	4	4	4	5	5	4	4			2	3	5	5	4	3	2	2	3.7	22	7
5	MON	1	1	1	1	1	2	2	2	2	1	1	0		0		3	3	3	2	2	2	2	2	2	1.6	22	3
6	TUE	1	1	1	1	2	1										3	2	2	2	2	2	3	3	3	1.9	15	3
7	WED	2	2	2	2	2	2	2	3	3	3	2	1	1	1			2	2	2	2	2	2	1	1	1.9	22	3
8	THU	1	1	1	1	1	1	1	1	2	2	3	2	2	2				3	3	3	3	3	3	3	1.9	21	3
9	FRI																											
10	SAT																											
11	SUN	5	5	5	6	4	4	4	3	3	3	3	3	3	3		3	3	3	3	3	3	3	3	2	3.5	23	6
12	MON	2	2	2	2	3	3	2	2	2	2	2	2	2	2			5	6	5	4	4	3	4	4	2.9	22	6
13	TUE	3	3	3	3	3	3	3	2	2	2	3	3	3	2		2		6	4	4	4	4	4	3	3.1	22	11
14	WED	1	1	1	1	1	1	1	2	2		2	2	3	3		3	3	3	3	3	3	3	3	3	2.2	22	6
15	THU	3	2	2	2	1	1	2	2	3	2	3	3	3	2		2	3	3	3	3	3	2	2	2	2.4	23	4
16	FRI																											
17	SAT																											
18	SUN																											
19	MON	3	2	2	2	1	1	2	2	2	2	2	2	2	1		1	2	2	2	2	2	2	1	1	1.8	23	3
20	TUE	1	1	1	1	1	1	2	2	2	2	2		3	3			3	3	3	3	4	4	3	3	2.3	21	4
21	WED	3	2	2	2	2	2	3	2	2	2	2	2	2	2		2	2	2	2	2	2	1	1	1	1.9	23	3
22	THU	1	0	0	1	1	0	1	1	2	2	3	3	2	2		2	2	2	2	3	3	3	3	2	1.8	23	3
23	FRI	3	2	2	2	2	1	2	2	3	3	3		3	3		3	3	3	3	3	2	2	2	2	2.5	22	3
24	SAT	2	1	1	2	2	1	2	2	2	2	2	2	2	4		4	3	2	3	3	3	2	2	2	2.2	23	4
25	SUN	2	1	1	1	1	1	1	1	1	2	2	2	2	3		3	3	4	5	5	4	3	3	3	2.3	23	5
26	MON	3	2	2	2	3	3	3	4	4	4						3	3	3	3	2	3	3	3	2	2.9	19	4
27	TUE	2	2	2	2	1	1	1	1	1							4	4	4	4	3	3	3	3	3	2.5	18	4
28	WED	3	3	2	2	2	2	2	2	3		4	4	4	4		4	4	4	4	4	3	3	3	2	3.1	22	5
MONTHLY MEAN		2	2	2	2	2	2	2	2	3	3	3	2	3	2		3	3	3	3	3	3	3	3	3	2.5		
NO. OF DAYS		23	23	23	23	23	23	22	22	22	19	19	17	19	20		18	21	23	23	23	23	23	23	23		498	
MAX. HRLY MEAN		5	5	5	6	4	4	4	4	4	5	5	5	4	4		4	5	6	5	5	5	5	5	5			

TABLE 3-54 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, MAY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	3	2	1	1	2	2	3	3	3	2			3	3		2	2	3	2	3	4	4	3	1	2.5	21	4
2	WED	1	0	1	1	2	1	2	2	3	2	2	2	2	2		2	3	4	5	5	5	5	5	4	2.5	23	5
3	THU	4	4	3	3	2	3	3	4	3	3	3	2	2	2		2	3	3	3	4	6	5	5	5	3.4	23	7
4	FRI	5	5	4	4	3	3	4	5	8	13	7	2	2	2		2	3	4	3	5	4	5	5	6	4.4	23	16
5	SAT	5	5	5	5	5	4	4	5	6	5	3	2	2	2		2	3	3	4	5	7	7	7	6	4.6	23	8
6	SUN	5	4	3	3	3	4	3	3	3	2	2	2	3	3		2	2	3	2	5	6	6	5	3	3.4	23	7
7	MON	3	2	2	2	3	3	3	3	3	2	1	1	1	1		1	2	3	2	4	4	4	3	3	2.4	23	5
8	TUE	3	4	4	4	2	4	5	5	5	5	4	4	2	3		3	3	3	3	4	5	4	3	4	3.6	23	6
9	WED	3	2	2	1	1	1	2	3	3	2	2	2	2	2		3	3	4	3	3	3	3	3	2	2.4	23	5
10	THU	2	1	1	1	1	2	2	3	3	3	2	2	2	3		5	5	5	5	4	4	5	5	5	3.1	23	6
11	FRI	4	3	4	4	4	4	5	6	10	7	4	2	2	2		2	3	4	4	5	7	8	8	6	4.6	23	12
12	SAT	5	5	6	4	3	3	3	4	4	4	3	2	2	1		1	1	2	3	4	5	7	6	6	3.7	23	7
13	SUN	5	5									1	1	1	1		1	1	2	2	3	4	6	4	3	2.7	15	7
14	MON	2	2	2	2	2	3	4	3	4	3	3	2	1	1		2	3	4	5	5					2.7	19	7
15	TUE											3	3	3	1		2	2	3	2	3	5	5	6	6	3.6	13	7
16	WED	5	5	4	4	4	4	5	10	21	14		4	3	3		2	3	2	3	4	9	7	8	8	6.0	22	24
17	THU	9	7	7	6	6	6	7	12	21	23	10	4	2	2		3	3	4	2	5	7	6	8	7	7.2	23	26
18	FRI	6	7	6	5	5	4	6	9	10	7	5	5	3	2											5.6	14	11
19	SAT		7	6	6	6	5	6	7	10	7	4	3	3	2		2	2	2	3	3	5	6	5	5	4.7	22	10
20	SUN	5										1	1	1	1		2	1	2	3	3	3	4	4	3	2.5	14	6
21	MON	2	3	2	2	1	2	2	2	4	4	4	2	1	3		5	5	2	0	3	3	3	3	3	2.7	23	6
22	TUE	3	4	3	1	1	1	3	3	4	4						2	2	2	2	2	2	2	2	2	2.4	19	5
23	WED	2	1	1	1	2	2	3	3	2	1	2	1	1	1		1	1	1	1	1	1	1	1	1	1.3	23	3
24	THU	1	1	1	1	1	1	1	1	1	1	1	0	1	1		1	1	1	1	1	2	2	2	2	1.1	23	3
25	FRI	1	1	1	1	1	1	1	2	4	2	2	2	3	2		3	3	3	3	2	3	3	3	2	2.2	23	5
26	SAT	2	2	2	2	1	1	1	1	2	3	2	2	3	2		2	2	2	2	2	2	2	2	2	1.9	23	3
27	SUN	2	2	2	1	1	0	0	0	1	1	1	1	1	2		2	2	2	2	2	2	2	2	2	1.4	23	3
28	MON	2	2	1	1	1	1	1	2	2	2	2	2	1	1		1	1	2	1	1	2	2	2	2	1.6	23	3
29	TUE																											
30	WED																											
31	THU																											
MONTHLY MEAN		3	3	3	3	2	3	3	4	6	5	3	2	2	2		2	2	3	3	3	4	4	4	4	3.2		
NO. OF DAYS		26	26	25	25	25	25	25	25	25	25	25	26	27	27		27	27	27	27	27	26	26	26	26		596	
MAX. HRLY MEAN		9	7	7	6	6	5	7	12	21	23	10	5	3	3		5	5	5	5	5	8	8	8	8			

TABLE 3.53 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, APRIL 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HRS	1-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	3	3	3	3	3	3	3	3	3	3	3	4	3	2		3	3	2	3	3	3	3	4	4	3.0	23	4
2	MON	3	3	3	3	3	3	3	3	3	3	3	3	2	3		2	3	3	3	3	4	4	4	4	3.1	23	5
3	TUE	4	4	3	3	4	3	4	4	4	5	4	4	4	4		3	3	4	4	5	6	6	6	6	4.2	23	6
4	WED	5	5	5	4	4	4	5	5	6	6	5	4	3	3		4	4	5	4	5	6	7	7	7	4.8	23	8
5	THU	6	5	6	5	5	5	6	6	6	6	5	5	5	5		5	5	6	4	4	4	3	3	3	4.9	23	7
6	FRI	3	2	2	3	3	3	4	4	4	4	3	4	4	4		4	4	5	5	4	4	4	4	4	3.6	23	5
7	SAT	3	4	4	4	4	4	4	4	4	3	2	2	2	2		2	2	2	2	4	5	4	5	4	3.3	23	5
8	SUN	4	4	3	2	2	2	2	2	2	2	2	2	2	2		2	3	3	5	5	5	4	3	3	2.9	23	6
9	MON	2	1	1	1	0	1	2	2	2	2	1	2	2	2						2	2	2	4	4	1.8	19	5
10	TUE																											
11	WED																											
12	THU																											
13	FRI	1	2	1	1	1	1	2	2	2					1		2	3	3	3	2	3	4	4	4	2.2	19	4
14	SAT	4	3	3	3	4	4	3	4	3	3	2	2	2	2		2	2	2	3	2	3	4	2	2	2.8	23	5
15	SUN	2	2	2	1	1	2	2	2	1	1	1	2	2	2		2	2	2	2	2	3	3	3	3	2.0	23	4
16	MON																											
17	TUE																											
18	WED																											
19	THU	4	4	4	4	3	3	3	3	3	3	2	2					3	2	2	3	3	3	3	3	3.0	20	4
20	FRI	3	3	2	3	2	2	3	3	3	3	3	3	3	3		2	3	3	3	4	6	6	6	6	3.4	23	7
21	SAT	6	6	5	4	4	4	5	6	5	4	4	3	3	3		3	3	4	5	7	7	6	5	6	4.7	23	8
22	SUN	6	5	5	3	2	2	3	3	2	2	1	2	1	1			1	1	1	1	1	2	2	1	2.2	22	6
23	MON	1	0	0	0	0	0	0	1	0	1	0	0	0				1	0	0	1	1	2	2	1	0.5	21	2
24	TUE	1	1	2	2	1	2	2	3	4	3	1					1	2	2	2	2	4	4	4	4	2.4	20	5
25	WED	4	4	3	3	3	3	3	5	6	4	2					1	1	2	2	3	4	3	3	3	3.1	20	7
26	THU																											
27	FRI																											
28	SAT	2	2	2	1	0	0	1	1	2	1	1	1	1	1		1	1	2	2	2	2	2	1	1	1.3	23	3
29	SUN	1	1	1	1	1	1	1	1	1	1	1	1	1	1			1	2	2	3	4	5	4	5	1.8	22	5
30	MON	4	4	2	2	2	2	3	3	3	2	2	2	1	1		1	2	2	2	3	3	3	4	4	2.6	23	5
MONTHLY MEAN		3	3	3	3	2	2	3	3	3	3	2	2	2	2		2	2	3	3	3	4	4	4	4	2.9		
NO. OF DAYS		22	22	22	22	22	22	22	22	22	21	21	19	18	18		17	21	21	21	22	22	22	22	22		485	
MAX. HRLY MEAN		6	6	6	5	5	5	6	6	6	6	5	5	5	5		5	5	6	5	7	7	7	7	7			

TABLE 3-56 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, JULY 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	SUN	6	6	5	4	3	3	3	4	4	3	4	2	1	1		2	2	2							3.3	17	7
2	MON											5	5	4	4		3	3	3	4	3	4	3	3	3	3.6	13	7
3	TUE	3	2	2	3	3	3	3	3	3	4	3	2	3	3		3	3	4	4	4	5	3	3	3	3.1	23	5
4	WED	4	2	2	2	2	1	2	1	0	5	3	3	2	1		3	2	1	1	2	4	5	4	4	2.4	23	13
5	THU	4	3	2	1	1	2	3	3	4	3	2	2	2	1		2	3	3	3	3	3	3	4	3	2.6	23	5
6	FRI	3	2	2	2	2	3	3	4	4	4	3	3	3	4		4	4	3	3	4	6	7	6	6	3.7	23	8
7	SAT	5	4	3	3	3	3	4	5	4	6	4	6	3	2		2	2	2	2	3	4	6	7	5	3.7	23	8
8	SUN	4	3	3	2	3	2	2	1	1	1	1	1	1	1			1	2	2	2	2	2	1	1	1.8	22	4
9	MON	2	1	1	1	1	1	1	1	4	2		2	2	2		2	3	3	3	3	4	5	4	4	2.4	22	5
10	TUE	4	3	3	3	3	3	4	6	6	3			2	2		3	2	2	2	2	4	6	6	5	3.6	21	7
11	WED	4	4	4	3	3	3	4	5	7	5	3	2	2	2		2	3	3	2	3	4	3	3	3	3.4	23	8
12	THU	3	2	2	2	3	3	4	5	4	3	2	2	2												2.9	13	6
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI	3	3	3	2	2	2	2	3	4	4	3	3	2	1		0	0	0	0	0	0	0	0	0	1.6	23	5
21	SAT	0	0	0	0	0	0	0	0	0			1	1			1	1	1	1	1	2	3	4	3	0.9	20	4
22	SUN	4	3	3	2	2	2	2	3	2	4	4	3	3		3	3	3	2	2	3	5	5	5	4	3.1	23	5
23	MON	4	3	1	2	2	2	3	4	2	3	3	3	2	2		2	2	2	2	3	3	4	6	6	2.8	23	6
24	TUE	4	4	5	4	4	4	3	5	7	4	3	2	2	2		2	4	3	2	3	4	4	3	4	3.5	23	8
25	WED	3	4	4	3	2	2	3	4	3	3	3	2	2	2		2	2	2	2	2	3	2	2	2	2.5	23	4
26	THU	2	1	1	1	1	2	2	2	2	2		1	2	2		2	3	3	2	3	4	5	5	4	2.3	22	5
27	FRI	4	4	3	3	3	3	3	4	5	3	3	2	2	2		3	4	4	3	4	6	5	5	4	3.6	23	6
28	SAT	4	4	3	3	3	3	3	4	5	4	3			2		3	3	3	3	3	6	7	6	5	3.7	21	7
29	SUN	4	2	2	1	2	2	2	2	3	2	2	2	4	3		1	1	2	2	3	3	3	2	4	2.3	23	5
30	MON	4	4	3	2	3	3	3	5	6	5	3	3	3	3		2	2	2	2	3	5	5	5	4	3.4	23	6
31	TUE	4	3	3	3	2	3	3	5	9	7	4	3	3	3		3	3	3	3	3	5	5	4	4	3.8	23	10
MONTHLY MEAN		3	3	3	2	2	2	3	3	4	4	3	3	2	2		2	2	3	2	3	4	4	4	4	2.9		
NO. OF DAYS		23	23	23	23	23	23	23	23	23	22	20	22	23	21	1	22	23	23	22	22	22	22	22	22		516	
MAX. HRLY MEAN		6	6	5	4	4	4	4	6	9	7	5	6	4	4	3	4	4	4	4	4	6	7	7	6			

TABLE 3-55 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, JUNE 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX
1	FRI																											
2	SAT	2	2	2	1	1	1	1	1	1	1	1	1	1	1		1									1.0	15	2
3	SUN																											
4	MON	1	1	0	1	1	1	1	1	2	1	1	0	0	0		0	1	1	1	1	1	1	1	1	0.8	23	2
5	TUE	1	0	0	0	0	0	1	1	1	1				1		0	0	0	0	0	0	1	1	1	0.4	20	1
6	WED	1	0	1	0	0	0	1	1	1	1	1	1	1	1		0	4	0	0	0	0	0	0	0	0.6	23	6
7	THU	0	0	0	0	0	0	0	0	0		2	2	2	2		2	2	2	2	3	4	4	4	3	1.5	22	5
8	FRI	2	1	2	1	1	2	3	4	4	3	2	2	2	2		3	3	3	3	3	3	4	4	4	2.7	23	4
9	SAT	4	4	3	4	3	3	2	3	3	3	3	3	3	2		2	3	4	3	3	4	4	4	4	3.2	23	5
10	SUN	4	4	4	3	2	3	3	4	4	2	2	2	2	2		2	2	1	1	3	3	4	3	2	2.7	23	5
11	MON	2	2	1	1	1	2	2	3	3	4	3	4	3	3		4	4	4	3	4	3	3	3	3	2.8	23	5
12	TUE	2	2	3	3	2	2	2	2				5	4	3		6	5	3	3	3	2	3	2	2	2.9	20	7
13	WED	3	2	3	1	1	1	2	2	2	2	2	2	2	1		2	2	2	2	3	2	2	3	3	2.0	23	6
14	THU	3	2	2	2	2	2	4	5	5	2	1	1	1	1		3	3	3	3	4	4	5	5	4	3.0	23	7
15	FRI	4	3	3	3	3	3	3	5	4	4	4	3	3	2		2	3	3	3	3	6	6	6	5	3.6	23	7
16	SAT	4	4	3	3	4	4	3	5	5	3	2	1	1	1		1	1	1	2	2	4	5	5	4	3.0	23	6
17	SUN	4	3	3	2	2	1	0	0			1	1	0	0		0	0	0	1	2	3	4	6	6	1.8	21	7
18	MON	5	5	4	4	4	3	4	6	10	10				1		1	2	3	1	1	1	1	2	1	3.4	20	12
19	TUE	0	1	1	1	0	1	1	1	1	0	0	0	0	0		0	1	1	0	0	1	2	2	3	0.8	23	3
20	WED																											
21	THU																											
22	FRI	2	2	2	1	2	2	4	5	5	4	4	3	2	2		2	3	3	3	3	4	4	5	5	3.1	23	6
23	SAT	4	3	3	4	3	3	4	5	4	3	3	2	2	2		2	2	2	3	3	3	3	2	3	3.0	23	5
24	SUN	3	3	3	3	2	2	3	3	4	3	2	2	2	2		1	2	4	4	4	4	4	5	4	2.9	23	6
25	MON	4	4	4	3	3	3	4	7	11	11	4	2	2	2		2	2	3	3	3	5	6	6	5	4.3	23	14
26	TUE	7	7	6	6	5	5	5	6	9	7	3	2	2	2		4	4	4	3	4	6	6	5	3	4.8	23	12
27	WED	2	1	1	1	1	2	3	3	4	4	3	2	3	2		2	2	3	2	2	3	4	5	6	2.6	23	6
28	THU	5	5	4	4	4	4	5	7	5		2	2	2	2		2	3	3	3	3	3	4	3	4	3.6	22	9
29	FRI	3	2	3	3	3	3	4	5	6	4	3	3	2	3		3	4	4	4	3	4	6	6	6	3.7	23	7
30	SAT	6	5	5	4	4	4	4	6	7	5	2	3	2	2		2	2	2	3	4	4	5	6	7	4.0	23	8
MONTHLY MEAN			3	3	2	2	2	3	3	4	3	2	2	2	2		2	2	2	2	3	3	4	4	3	2.6		
NO. OF DAYS		26	26	26	26	26	26	26	26	24	22	23	24	24	26		26	25	25	25	25	25	25	25	25		577	
MAX. HRLY MEAN		7	7	6	6	5	5	5	7	11	11	4	5	4	3		6	5	4	4	4	6	6	6	7			

TABLE 3-58 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, SEPTEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	2	3	2	2	2	2	2	2	2	2	3	2	2	2		2	2	2	2	2	2	2	2	2	2.1	23	4
2	SUN	2	2	2	2	2	2	2	2	2	2	2	3					2	2	2	4	5	5	4	3	2.6	20	5
3	MON	3	2	2	2	1	1	2	2	2	2	2	2	2	2		2	2	2	2	3	4	4	4	3	2.3	23	4
4	TUE	2	2	1	1	1	1	1	2	2	1	1							3	3	3	3	3	3	3	2.0	18	4
5	WED	3	3	2	1	1	1	3	2	2	2	3	2	3	3		3	3	3	3	3	3	4	3	3	2.5	23	4
6	THU	4	2	2	2	2	2	2	3	3	2	2	2	2	2		2	3	3	3	5	5	4	4	4	2.8	23	5
7	FRI	4	4	4	3	3	3	3	4	8	7	5	3	2	2		3	3	3	2	3					3.6	19	12
8	SAT		8	7	6	5	5	5	6	11	6	5	4	3	3		3	2	2	3	3	3	3	2	3	4.4	22	14
9	SUN	2	2	2	2	1	1	1	1	2	2	3	3	2	2	1	1	1	2	2	3	3	2	2	2	1.9	24	3
10	MON	2	1	1	2	2	2	2	1	1	1	1	2				1	1	1	1	1	1	1	1	1	1.3	21	2
11	TUE	1	1	1	1	1	1	1	2	3	3	3	2	2	2		3	3	3	5	5	4	4	3	3	2.4	23	5
12	WED	2	2	2	2	2	1	1	2	4	5	4	3	3												2.7	13	7
13	THU																											
14	FRI																											
15	SAT	2	2	2	2	2	2	3	3	3	3	3	4	2	2		3	3	4	4	4	4	4	4	5	3.1	23	5
16	SUN	4	4	4	3	3	2	2	2	2	2	2	1	2	2			2	2	2	2	2	3	3	3	2.4	22	5
17	MON	1	2	1	1	1	2	2	3	4	3	2	2	2	2		2	3	3	3	3	3	3	4	4	2.4	23	4
18	TUE	3	2	2	2	3	3	3	3	3	3		2	2	2		2	3	3	3	5	4	4	4	4	3.0	22	5
19	WED	4	3	3	3	3	3	3	3		3	3	3	3	4		3	4	4	4	4	3	3	3	3	3.3	22	5
20	THU	3	2	2	2	2	2	2	2	3	4	4	3	3	3		2								5	2.8	16	6
21	FRI	4	3	3	3	2	3	3	5	5	4	3	2	2	2		3	4	4	5	6	6	5	5	5	3.7	23	6
22	SAT	5	4	4	4	4	3	3	2	4	5	4			3		3	4	5	6	6	6	6	5	5	4.2	21	6
23	SUN	6	5	5	5	5	4	4	4	6	6	6	3	2	2		2	2	2	4	5	6	5	6	6	4.4	23	8
24	MON	6	5	5	5	5	5	4	6	8	7			2	2		3	5	6	6	5	4	3	3	3	4.6	21	9
25	TUE	3	2	1	1	1	1	2	2	2	2	2	2	2				4	5	5	5	6	5	5	5	3.0	21	7
26	WED	4	4	4	4	3	4	3	4	4	5	6	5	5	5		5	5								4.3	16	7
27	THU										5	4	4	4	4		3	4	4	3	3	3	3	3	3	3.6	14	7
28	FRI	2	3	2	2	2	2	2	2	2	2	2	2	2	3		4	4	4	4	4	5	5	4	3	2.9	23	6
29	SAT	2	0	0	0		3	2	3	4	5	4	2	2	2		3	3	3	5	5	5				2.8	19	6
30	SUN		4	3	3	3	3	3	3	4	4	5	3	3			3	3	3	6	7	6	6	6	7	4.2	21	8
MONTHLY MEAN		3	3	3	2.	2	2	2	3	4	4	3	3	3	2	1	3	3	3	4	4	4	4	4	4	3.0		
NO. OF DAYS		25	27	27	27	26	27	27	27	26	28	26	25	24	22	1	23	25	25	25	25	24	23	23	24		582	
MAX. HRLY MEAN		6	8	7	6	5	5	5	6	11	7	6	5	5	5	1	5	5	6	6	7	6	6	6	7			

TABLE 3.57 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, AUGUST 1962

DAY OF MONTH	DAY OF WEEK	A M 12	1	2	3	4	5	6	7	8	9	10	11	P M 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX
1	WED	5	4	4	4	3	3	4	4	7	7				3		3	4	4	4	5	6	6	5	4	4.4	20	8
2	THU	4	3	3	3	4	3	4	6	8	6	2	2	2	1		2	3	3	3	4	5	7	6	4	3.8	23	9
3	FRI	4	6	6	5	5	5	6	8	6	4	4	3	2	2		2	3	3	3	4	4	3	3	3	4.1	23	11
4	SAT	3	2	2	2	2	1	2	2	2	3	2	2	2	2		1	1	2	2	2	2	2	2	2	1.9	23	3
5	SUN	2	2	1	2	2	2	1	2	2	3	3	2	2	1		1	1	1	1	2	2	3	3	2	1.8	23	3
6	MON	2	2	1	1	1	1	1	2	3	3	3	3	2	2		2	2	2	2	2	3	2	2	2	2.0	23	3
7	TUE	2	2	1	1	1	1	2	2		3	2	2	4	2		3	3	3	2	2	2	3	2	2	2.2	22	5
8	WED																											
9	THU																											
10	FRI																											
11	SAT	3	3	3	3	2	3	3	3	3	4	3	4	3	2		2	4	4	4	5	7	7	7	7	3.8	23	8
12	SUN	7	6	6	6	5	5	5	6	6	6	7		3	2		2	2	2	3	3	3	3	2	2	4.0	22	8
13	MON																											
14	TUE	6	5	5	4	4	3	3	3			3	3	3	2		3	3	3	3	3	3	4	4	4	3.4	21	6
15	WED	3	3	3	3	3	3	3	3	4		4	4	6	5		2	3	3	3	5	8	7	6	6	4.0	22	8
16	THU	6	5	5	3	4	4	3	5	10	6	2	2	2	2			2	3	3	4	7	7	6	5	4.3	22	12
17	FRI	3	3	3	4	4	3	3	3		4	4	4	4	3		3	4	4	4	5	6	6	6	5	4.0	22	7
18	SAT	5	3	3	3	2	1	1	1	2	3	4	2	2	2		1	2	3	3	5	8	7	5	5	3.2	23	8
19	SUN	4	3	4	4	3	3	3	2	3	3	3	3	2	2		2	2	4	6	5	3	4	3	2	3.2	23	7
20	MON	2	2	2	2	3	2	4	5	4	4	3	2	3	2		1	3	3	4	4	3	3	4	3	2.9	23	6
21	TUE	2	1	2	1	1	1	2	3	4	4	4						5	5	4	4	4	4	4	4	3.1	19	6
22	WED	4	4	5	5	5	5	5	7	13		4	2	2	2		2	2	3	2	4	5	5	5	3	4.2	22	14
23	THU	2	2	3	2	2	2	3	7	9	5	3	3	2	2		2	2	3	2	4	7	8	4	4	3.6	23	10
24	FRI	3	4	3	2	2	2	3	4	4	2	2	2	2	2		3	3	3	3	3	3	3	4	4	2.9	23	5
25	SAT	3	3	3	2	2	2	2	3	3	2	2	3	3	3		2	3	4	5	5	4	4	3	3	3.0	23	6
26	SUN	4	3	3	3	2	2	2	2	2	3	3	3	3	3			2	2	2	4	5	5	5	5	3.1	22	6
27	MON	4	4	3	4	3	4	4	6	7	6	3		3	3		3	4	4	3						3.9	17	8
28	TUE							4	6	12	18	7	4	2	2		3	5	5	4	4	7	8	7	6	6.0	17	19
29	WED	6	6	7	6	7	6	6	7	15	17	7	5	3	2			5	4	4	7	9	8	7	6	6.8	22	19
30	THU	7	9	6	4	4	6	5	6	16	12	[illegible]	5	3	2		3	4	5	6	7	8	7	6	5	6.2	23	20
31	FRI	4	3	2	2	2	2	4	5	6	3						3	3	4	4	4	3	2	3	3	3.2	19	6
MONTHLY MEAN		4	4	3	3	3	3	3	4	6	5	4	3	3	2		2	3	3	3	4	5	5	4	4	3.6		
NO. OF DAYS		26	26	26	26	26	26	27	27	24	24	15	22	24	25		23	27	27	27	26	26	26	26	26	SAA		
MAX. HRLY MEAN		7	9	7	6	7	6	6	6	16	18	8	5	6	5		3	5	5	6	7	9	8	7	7			

TABLE 3-60 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, NOVEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	3	3	3	3	2	2	2	2	3	3	[illegible]	4	3	2		4	4	4	4	4	4	4	4	4	3.2	23	5
2	FRI	4	3	3	3	3	3	3	3	3	3	[illegible]	3	2	2			3	3	3	3	3	3	2	3	2.8	22	4
3	SAT	3	2	3	3	3	3	2	3	3	3	[illegible]	3	4	4	1	3	4	4	4	4	3	3	3	3	3.0	24	6
4	SUN	3	3	2	2	2	2	2	2	2	2	[illegible]	3	2	2		3	3	3	3	3	3	3	2	2	2.4	23	6
5	MON	2	1	1	1	1	1	1	1	2	2	[illegible]			3		3	3	3	3	3	3	3	3	3	2.1	21	4
6	TUE	2	2	2	2	2	2	3	3	4	4	[illegible]	3	3	3		3	3	4	4	3	3	2	2	2	2.8	23	6
7	WED	2	2	2	2	2	2	3	3	3	3		3	3	3		3	3	3	3	3	3	3	3	3	2.8	23	4
8	THU	3	3	3	2	3	3	3	3	3	3	[illegible]	4	4	1		3	4	3	3	3	3	3	3	3	3.0	23	5
9	FRI	2	2	2	2	2	2	3	3	3	3	[illegible]	3	3	3		3	3	3	3	3	3	3	3	3	2.9	23	6
10	SAT	2	2	2	1	2	2	2	1	2	2	[illegible]	2	2	2		2	2	3	3	4	4	4	3	3	2.4	23	5
11	SUN	3	3	3	3	3	3	3	3	3	5	[illegible]	4	4	4		3	3	4	5	4	3	3	3	2	3.3	23	6
12	MON	2	2	2	2	2	2	2	2	2	2	[illegible]	2	2	2			3	2	2	2	2	2	2	2	2.1	22	4
13	TUE	2	2	2	2	2	1	2	2	3	3		3	2	3		3	4	4	4	5	4	4	4	4	2.9	23	6
14	WED	4	4	4	3	3	3	4	3	4	5				3		3	4	5	5	4	4	4	4	3	3.8	20	7
15	THU																											
16	FRI																											
17	SAT	2	2	2	1	2	1	2	2				1	1	2		2	2	2	2	2	2	2	2	2	1.7	21	3
18	SUN	2	2	2	2	2	2	2	2	2	2		2	2	2		2	3	3	3	3					2.2	18	4
19	MON										3		3	3	3		3	3	4	3	4	3	3	3	2	3.1	14	5
20	TUE	2	2	1	2	1	1	2	2	3								4	4	4	3	4	3	3	3	2.6	17	5
21	WED	2	2	2	1	1	2	2	3	3	3		2	3	2		3	3	3	4	4	4	3	3	3	2.6	23	6
22	THU	2	2	1	1	1	1	1	1	1	1		1	1	1		1	1	1	2	1	1	2	1	1	1.2	23	4
23	FRI	2	2	2	1						3		2	2	2		3	3	3	3	2	2	2	2	2	2.2	18	4
24	SAT	2	1	1	1	1	2	2	2	2	3		2	2	3		3	2	3	3	3	3	3	3	3	2.4	23	4
25	SUN	3	3	3	3	2	2	2										3	4	3	3	4	5	3	3	3.0	15	5
26	MON	5	4	3	3	4	3	4	4	3	3		3	2	2		3	3	3	4	4	4	3	3	3	3.3	23	6
27	TUE																											
28	WED																											
29	THU	5	4	4	4	4	4	4	3	3	4		4	3	3		3	4	4	4	4	3	3	4	3	3.7	23	6
30	FRI	5	4	5	5	5	5	6	6	8	12	1	23	8	4		4	5	6	5	5	5	5	6	8	7.1	23	25
MONTHLY MEAN		3	2	2	2	2	2	3	3	3	3	[illegible]	4	3	3		3	3	3	3	3	3	3	3	3	2.9		
NO. OF DAYS		25	25	25	25	26	26	26	25	22	23	2	22	22	24	1	22	26	26	26	26	25	25	25	25		557	
MAX. HRLY MEAN		5	4	5	5	5	5	6	6	8	12	1	23	8	4	1	4	5	6	5	5	5	5	6	8			

TABLE 3-59 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, OCTOBER 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX
1	MON	7	7	6	6	6	6	7	8	8	10								3	3	2	2	2	2	1	5.1	17	12
2	TUE	2	2	2	1	1	2	2	3	2			3	3	3			3	3	3	3	3	3	3	3	2.3	20	5
3	WED	2	1	1	2	1	1	1	2	2	2	3	2	2	2			2	3	3	4	4	3	2	2	2.1	22	5
4	THU																											
5	FRI		4	3	3	3	3	3	3	4	8	7	3	2	3		3	4	4	4	4	4	5	5	5	3.8	22	10
6	SAT	4	4	4	4	3	3	3	3	3	6	8	6	4	2		4	3	4	4	4	4	4	4	3	3.9	23	9
7	SUN	4	4	4	3	3	3	3	2	3	3	2	3	3	3		3	3	3	5	5	5	4	4	3	3.3	23	6
8	MON	2	3	3	3	2		0	2	3	2	2	2	2	2		3	3	3	3	3	2	3	3	3	2.4	22	5
9	TUE	2	2	1	2	2	2	3	3	3	3	3	3	3	3		4	4	5	6	6	5	5	4	5	3.4	23	7
10	WED	4	3	3	3	3	4	4	4	6	11	11	7	5	4			3	4	4	5	4	5	3	2	4.5	22	15
11	THU	1	0	1	1	1	1	2	3	3	3	1	1	0	0			1	2	2	3	2	3	2	1	1.5	22	5
12	FRI	1	1	1	1	1	1	1	2	2	2	2	1	1	1			2	2	2	3	2	2	2	2	1.5	22	4
13	SAT	2	2	4	3	2	2	1	1	1	1	1	0	2	2		1	1	1	1	1	1	1	1	1	1.4	23	5
14	SUN	1	1	1	1	1	1	0	0	1	1	2	1	1	1		1	0	1	1	2	2	2	2	2	1.1	23	4
15	MON	2	2	2	1	1	1	2	2	3	3	3	2	1	1		2	1	2	3	3	2	2	2	1	1.9	23	5
16	TUE	1	1	1	1	0	0	1	2	2	0	0	0	0			2	1	1	1	1	0	0	0	0	0.7	22	4
17	WED	0	0	0	1	0	0	0	1	1		2	2	2	2		2	3	3	3	4	5	4	4	4	2.0	22	6
18	THU	4	4	4	3	3	3	3	4	4	4	5	2	2	2		3	3	4	5	4	4	4	4	4	3.4	23	6
19	FRI	3	3	3	3	2	3	3	3	4	6	7	4	3	3		3	4	5	6	6	5	5	5	5	4.1	23	8
20	SAT	5	4	4	4	4	3	4	4	3	4	5	3	3	2		2	2	3	4						3.5	18	6
21	SUN					1	2	2	1	2	2	2	2	2	7		1	2	2	3	3	3	3	3	2	2.2	19	13
22	MON	2	2	2	2	2	2	2	2	3	4	4	2	3	2			2	2	1	1	1	1	1	0	2.0	22	5
23	TUE	0	1	1	1	0	0	1	1	1	1		1	1	2		2	3	2	3	2	2	2	2	2	1.3	22	4
24	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2		2	2	3	3	3	3	3	3	3	2.1	23	4
25	THU	3	3	3	2	2	2	2	2	2	2	2	2	1	1		2	2	2	2	2	2	4	3	3	2.1	23	7
26	FRI	2	3	3	4	3	3	3	3	3					4		2	3	2	1	0	0		4	3	2.7	18	5
27	SAT	3	3	3	2	2	2	2	2	2	2	2	3	4	3		3	2	3	4	4	4	4	3	2	3.0	23	6
28	SUN	2	2	2	2	2	2	2	2	2	2	2	3	2	2		2	3	4	3	3	3	3	3	3	2.3	23	5
29	MON	3	2	2	2	2	2	1	1	2	1			2	2		5	5	5	4	5	4	5	4	4	3.1	21	7
30	TUE	4	3	3	2	2	2	2	2	2	2		2	2	3		3	2	3	3	3	2	2	3	3	2.5	22	5
31	WED	3	3	3	3	2	2	2	2	4	4	4	4	3	3		3	3	3	3	3	3	3	3	3	2.9	23	5
MONTHLY MEAN		2	2	2	2	2	2	2	2	3	3	3	2	2	2		2	2	3	3	3	3	3	3	3	2.6		
NO. OF DAYS		28	29	29	29	30	29	30	30	30	27	24	27	28	28		23	29	30	30	29	29	28	29	29		656	
MAX. HRLY MEAN		7	7	6	6	6	6	7	8	8	11	11	7	5	7		5	5	5	6	6	5	5	5	5			

TABLE 3-62 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, JANUARY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	2	2	2	2	2	2	2	2	2	2	2	2	2	2		3	3	4	5	5	5	5	5	5	2.9	23	6
2	WED	5	5	6	7	6	7	8	8	8	8			3	4			6	6	5	4	5	6	6	6	5.8	20	9
3	THU	5	3	3	3	3	3	3	3	3	3	3	3	3	4		3	3	4	3	3	5	4	3	3	3.3	23	6
4	FRI	3	3	3	3	3	3	4	4	6	5	5	6	4	4		4	4	3	3	3	3	3	3	3	3.7	23	7
5	SAT	3	2	2	2	2	2	2	2	2	2	2	3	3	3		3	3	3	3	2	2	2	2	2	2.4	23	4
6	SUN	2	2	2	2	2	2	3	2	2	3	3	3	4	4		3	3	3	3	3	3	3	3	3	2.7	23	4
7	MON																											
8	TUE																											
9	WED																											
10	THU																											
11	FRI																											
12	SAT																											
13	SUN																											
14	MON																											
15	TUE	2	2	2	2	1	1	2	2	2	2	2	2	2	2		2	2	3	3	2	2	3	3	3	2.1	23	3
16	WED																											
17	THU																											
18	FRI	3	3	3	3	3	2	2	2	2	2	2	2	2	2			2	3				4	6	5	2.8	19	6
19	SAT	4	3	2	2	2	2	2	2	2	2	3	3	4	3		2	2	2	2	1	1	1	1	2	2.1	23	5
20	SUN	3	3	2	1	1	1	0	1	1	1	1	1	1	1		1	1	2	2	2	2	2	2	2	1.5	23	3
21	MON	2	1	1	2	2	2	2	2	2	3						3	2	3	3	3	3	3	3	2	2.3	19	3
22	TUE	2	3	3	2	2	3	3	3	3	3	3	3	2	3		3	4	4	4	4	5	4	3	4	3.1	23	5
23	WED	3	2	2	2	2	2	2	2	2	3		3		2		2	2	2	2	2	2	2	2	2	2.2	21	4
24	THU	2	1	1	1	1	2	2	2	3	2	2	2	2	2		3	3	3	3	3	2	2	2	2	2.0	23	4
25	FRI	2	3	3	2	3	3	3	3	3	4	4	4	4	3		4	4	4	4	3	3	3	3	3	3.2	23	5
26	SAT	3	3	3	3	3	3	3	3	3	3	3	3				4	4	4	5	5	5	5	5	4	3.6	21	5
27	SUN	4	4	5	4	4	6	5	4		2	2	2	2	2			2	2	3	3	3	3	3	3	3.3	21	6
28	MON	3	3	3	3	3	4	4	4	5	5	6	5	4	4					4	4	4	4	4	4	3.9	20	6
29	TUE	4	4	4	4	4	4	4	4	4	5	4			5		4	5	5	5	5	3	3	4	4	4.1	21	5
30	WED	4	4	4	3	3	3	4	3	3	3		3	3	3		3	4	5	4	4	4	4	3	3	3.5	22	5
31	THU	2	2	2	2	2	2	3	3	4	4	5	3	4	4		5	5	4	4	3	4	4	4	4	3.4	23	7
MONTHLY MEAN		3	3	3	3	3	3	3	3	3	3	3	3	3	3		3	3	3	4	3	3	3	3	3	3.0		
NO. OF DAYS		21	21	21	21	21	21	21	21	20	21	17	18	17	19		17	20	20	20	20	20	21	21	21		460	
MAX. HRLY MEAN		5	5	6	7	6	7	8	8	8	8	6	6	4	5		5	6	6	5	5	5	6	6	6			

TABLE 3-61 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, DECEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	6	5	6	6	6	7	8	7	8	9	14	22	25	8		7	7	11	11	10	9	8	8		9.4	22	30
2	SUN																											
3	MON					10	9	5	4	9					10		6	7	8	8	8	7	7	6	5	7.2	15	13
4	TUE	5	5	4	4	4	4	4	4	5	6	9	11	9	6		3	5	5	5	5	6	6	5		5.5	22	13
5	WED																											
6	THU																											
7	FRI																											
8	SAT										2	2	2	2	2		2	2	2	2	2	3	3	3	3	2.3	14	4
9	SUN	4	3	3	3	3	2	2	2	2	2	1	2	2	2		2	2	2	2	2	1	2	2	2	2.1	23	4
10	MON	2	2	2	2	1	1	2	2	2	2				2		1	2	2	1	2	1	2	1	1	1.6	20	3
11	TUE	1											2	2	2		2	2	2	2	2	2	2	2	2	1.9	13	3
12	WED	2	2	2	2	2	1	2	2	2	2	2	2	2	2		2	3	3	3	3	3	2	2	2	2.2	23	4
13	THU	2	1	2	2	2	2	2	2	2	2	2	0		2		3	2	2	2	2	2	2	2	2	1.9	22	3
14	FRI	3	2	3	3	3	3	2	3	2	3	3	3	2	2		3	3	4	3	3	3	3	3	3	2.8	23	4
15	SAT	3	3	3	3	3	2	2	2	3	3	4	3	3	3		4	5	5	5	5	5	6	5	5	3.7	23	6
16	SUN	5	5	6	5	5	4	4	3	2	2	2	2	2	2		1	2	2	2	2	2	1	2	1	2.8	23	7
17	MON	1	1	1	1	1	1	1	1	1	2	2	2	3	2		3	4	5	5	5	4	5	7	5	2.8	23	8
18	TUE	5	5	5	4	4	4	3	7	5	5	6	6				5	6	7	7	7	7	7	6	6	5.5	21	8
19	WED																											
20	THU																											
21	FRI	1	1	1	1	1	2	3	3	3	2	2	3	3	3		3	3	2	2	2	2	2	2	2	2.1	23	3
22	SAT	2	1	1	1	1	1	1	1	1	1	2	3	3	3		2	2	2	2	2	2	2	2	2	1.7	23	4
23	SUN	2	1	1	2	2	1	1	2	2	2	2		2	1											1.7	14	3
24	MON																											
25	TUE																											
26	WED																											
27	THU	3	3	3	3	4	4	3	3	3	3	4	2	2	2		2	3	3	3	3	2	2	2	2	2.7	23	4
28	FRI	2	2	2	2	2	2	3	4	4	4	4	3	3	3			4	4	4	4	4	4	4	4	3.2	22	6
29	SAT																											
30	SUN																											
31	MON										2	2	2	2	3		3	3	3	3	3	3	3	3	2	2.6	14	4
MONTHLY MEAN		3	3	3	3	3	3	3	3	3	3	4	4	4	3		3	3	4	4	4	4	4	4	3	3.3		
NO. OF DAYS		17	16	16	16	17	17	17	17	17	18	17	18	16	19		18	19	19	19	19	19	19	19	17		406	
MAX. HRLY MEAN		6	5	6	6	10	9	8	7	9	9	14	22	25	10		7	7	11	11	10	9	8	8	6			

TABLE 3-64 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, MARCH 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	3	3	3	2	2	2	3	3	3	3	3	3	3	3		4	5	5	5	4	4	4	3	4	3.3	23	5
2	SAT	4	3	2	2	3	3	3	4	5	5	4	5	4	5		4	4	4	5	5	5	6	5	5	4.1	23	6
3	SUN	5	4	4	4	4	3	3	3	3	3	4	4	3	3			4	4	6	6	7	8	9	9	4.7	22	9
4	MON	10	7	7	9	8	6	7	7	7	8		4	4	3		4	4	4	4	4	3	3	3	4	5.4	22	11
5	TUE	3	3	3	2	2	2	2	2	2	2	2	3	4	3			2	2	2	2	1	1	1	1	2.1	22	4
6	WED	1	1	1	0	0	0	0	1	1	1		1	1	1			2	2	2	3	2	3	2	1	1.2	21	3
7	THU	2	2	1	1	1	1	1	1	2	2	2	2	1	1			2	2	2	3	3	3	3	2	1.8	22	3
8	FRI	2	2	1	1	1	2	2	3	3	2	2	2	2	3		3	3	3	3	4	4	4	4	4	2.6	23	5
9	SAT	5	4	5	4	3	3	2	2	2	3	3	4	4	3			2	3	3	2	3	2	2	2	3.0	22	6
10	SUN	2	1	1	1	1	1	1	1	2	2	1	2	2	2			2	2	2	3	3	3	3	3	1.9	22	4
11	MON	2	1	1	1	0	1	1	1	1	1	1			2		3	3	4	3	3	2	2	2	2	1.8	21	4
12	TUE	3	2	2	2	2	2	2	2	3	4	5	3	2	2		2	3	3	4	4	4	3	2	2	2.8	23	5
13	WED																											
14	THU											3	3	4	3		3	3	3	3	3	3	4	4	4	3.2	13	4
15	FRI	4	3	3	3	2	3	3	3	3	2	2	2	2	2		2	3	3	3	3	4	4	4	4	2.9	23	4
16	SAT	4	4	4	4	4	4	4	4	4	4	4	3	4	4		3	4	4	4	4	3	3	3	2	3.6	23	4
17	SUN	2	2	2	1	1	1	1	1	1	1	1	1	1	1			1	1	1	2	2	2	1	2	1.3	22	2
18	MON	2	1	1	1	1	1	2	3	3	3	3	3	3	3		3	3	4	3	3	3	3	3	3	2.5	23	4
19	TUE	2	2	2	2	2	2	2												1	1	1	1	1	1	1.5	13	3
20	WED	1	1	1	0	1	1	1	1	2	2	2	2	2	1		2	2	1	1	1	1	0	0	0	1.1	23	3
21	THU	0	0	0	0	0	0	0	0		3	2	2	1	1		2	2	2	2	2	2	1	2	1	1.1	22	3
22	FRI	1	1	1	1	1	1	2	2	2	2	2	2	2	2		2	2	3	3	3	4	5	4	4	2.2	23	5
23	SAT	4	4	4	3	3	3	3	3	3	3	3	3	2	2		2	2	2	3	4	4	3	4	4	3.1	23	4
24	SUN	3	3	4	4	3	3	4	4	4	3	2	2	1	1		1	2	2	4	4	4	4	4	2	2.9	23	5
25	MON	2	1	1	1	2	2	4	4	4	3	3	2	2	2			3	3	3	3	3	3	2	2	2.4	22	4
26	TUE	2	2	2	1	1	2	3	3	2	2	2	1	1	1		2	2	2	3	3	2	2	2	2	1.9	23	3
27	WED	2	2	2	2	2	2	2	3	3	2	3	2	3	2		3	3	3	4						2.6	18	5
28	THU																											
29	FRI	2	2	2	2	2	2	2	3	4	4	4	3	2	2		3	3	3	3	4	4	4	3	2	2.8	23	5
30	SAT	2	2	1	2	1	1	2	3	3	3	3	4	3	2		3	3	3	4	4	4	4	3	3	2.7	23	4
31	SUN	3	2	2	2	2	2	2	2	1	2	2	2	2			2	3	3	3	3	3	3	3	3	2.3	22	3
MONTHLY MEAN		3	2	2	2	2	2	2	3	3	3	3	3	2	2		3	3	3	3	3	3	3	3	3	2.6		
NO. OF DAYS		28	28	28	28	28	28	28	27	26	27	26	27	27	27		20	28	28	29	28	28	28	28	28		628	
MAX. HRLY MEAN		10	7	7	9	8	6	7	7	7	8	5	5	4	5		4	5	5	6	6	7	8	9	9			

TABLE 3-63 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, FEBRUARY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	4	3	3	3	3	4	4	4	4	4	4	4	4	4		4	4	4	4	3	3	3	3	3	3.6	23	4
2	SAT	3	3	2	2	2	2	2	3	3	3	2	3	3	2		2	2	2	2	2	2	2	2	2	2.3	23	4
3	SUN	2	2	2	2	1	1	2	2	2	2	2	2	2	2		2	3	4	4	5	5	5	6	6	2.9	23	7
4	MON	6	6	6	6	7	7	7	7	8	8						4	4	4	4	4	4	3			5.6	17	9
5	TUE																											
6	WED																											
7	THU	4	3	2	2	2	2	2	2	2	2	4	3	3	3		3	3	3	3	3	4	4	4	4	2.9	23	5
8	FRI	4	3	2	2	2	2	3	3	3					3		3	3	3	3	2	3	2	2	2	2.5	19	4
9	SAT	2	2	2	2	3	3	2	2	2	3	3	3	3	2		2	3	3	3	3	3	3	3	4	2.7	23	4
10	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3			4	4	4	4	4	4	3	3	3.3	22	4
11	MON	3	2	2	2	2	2	2						3	3		3	3	4	4	3	3	3	3	3	2.7	18	4
12	TUE	3	2	2	2	2	2	3	3	3	3		4	3	3		3	3	3	3	3	3	3	3	3	2.6	22	4
13	WED	3	3	3	3	2	2	3	3	3	3	3	3	3	3		2	3	3	3	2	3	3	3	2	2.7	23	5
14	THU	2	1	1	1	1	1	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	1.8	23	3
15	FRI	2	2	2	2	2	2	2	2	3	3	3	3	3	3		3	3	3	3	4	4	4	4	4	2.9	23	4
16	SAT	4	4	4	4	4	4	3	3	4	4	3	3						4	5	5	5	4	5	4	4.0	19	5
17	SUN	4	4	4	4	3	4	4	3	3	3	4	2	2	2			3	3	4	4	4	4	5	5	3.5	22	6
18	MON	6	6	6	6	6	7	7	7	8								4	5	5	5	5	5	5	5	5.8	17	8
19	TUE	5	5	6	6	6	5	5	5	6	4	5	3	3	2		4	3	3	4	5	4	4	3	3	4.3	23	21
20	WED	2	2	2	1	1	2	2	2	2		2	2	2	2		1	2	2	2	2	2	2	2	2	1.8	22	3
21	THU	2	3	3	3	3	3	3	4	4	4	4	4	4	5		5	5	5	5	5	4	5	5	5	4.0	23	5
22	FRI	5	5	5	5	5	4	4	5	5	4	4	5	5	5		2	3	3	3	4	4	3	3	3	4.0	23	5
23	SAT	3	3	3	3	3	2	2	2	2	2	3	3	2	2		2	3	3	3	3	3	3	2	3	2.6	23	3
24	SUN	1	1	1	1	1	1	1	2	1	2	2	2	2	2		3	3	3	3	3	4	4	4	5	2.2	23	5
25	MON	4	4	3	4	3	3	3	3	4	4	4	4	4	4			2	3	2	2	2	2	2	2	3.1	22	5
26	TUE	2	2	2	2	2	2	2	2	3	2	2	2				3	3	3	3	3	3	3	3	4	2.5	21	5
27	WED	3	3	3	3	3	3	3	3	3	3	3	2	2	3		3	3	3	3	3	3	3	4	3	2.9	23	4
28	THU	3	3	3	3	3	3	4	4	4	6	8		7	5		5	6	6	6	5	5	4	4	4	4.5	22	9
MONTHLY MEAN		3	3	3	3	3	3	3	3	4	3	3	3	3	3		3	3	3	3	3	3	3	3	3	3.7		
NO. OF DAYS		26	26	26	26	26	26	26	25	25	22	21	21	21	22		21	25	26	26	26	26	26	25	25		565	
MAX. HRLY MEAN		6	6	6	6	7	7	7	7	8	8	8	5	7	5		5	6	6	6	5	5	5	6	6			

TABLE 3-66 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, MAY 1963

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX
1	WED	2	2	2	2	2	2	3	3	3	3	2	2	2	2		2	3	3	3	4	4	5	6	6	2.9	23	6
2	THU																											
3	FRI																											
4	SAT	5	5	5	4	4	4	4	5	6	5	3	2	3	2		2	2	2	3	4	6	6	5	5	4.0	23	7
5	SUN	5	5	5	5	4	3	4	6	6	3	2	2	2	2			2	3	3	4	5	4	4	3	3.7	22	7
6	MON																											
7	TUE										6	3	2	2	2			2	2	2	3	4	4	4	4	3.0	13	8
8	WED	4	3	1	1	1	2	3	3	3	2	2	2	1			1	1	1	1	2	3	2	2	1	2.0	22	4
9	THU	1	1	1	1	2	3	3	3	2	1	1		1	0		1	1	1	2	3	2	3	2	2	1.7	22	4
10	FRI	2	2	3	3	3	3	2	2	2	2	2	2	2	1		2	1	2	2	3	3	3	3	2	2.2	23	3
11	SAT																											
12	SUN																											
13	MON																											
14	TUE																											
15	WED																											
16	THU																											
17	FRI																											
18	SAT	2	2	1	2	2	2	2	2	2	2	3	2	2	2		1	2	2	2	3	4	4	3	3	2.2	23	4
19	SUN	3	4	4	3	3	3	3	3	3	2	2	1	1	2			1	2	2	3	3	2	2	1	2.4	22	5
20	MON	1	2	1	1	1	1	2	3	3	2	1	3	2	2		2	3	3	2	2	4	4	4	4	2.2	23	4
21	TUE	3	3	4	3	3	3	3	4	5					1			1	1	1	0	1	1	1	1	2.2	18	6
22	WED	1	1	1	1	1	1	1	1				1	1	2		2	3	3	3	3	3	4	4	4	2.0	20	4
23	THU	4	4	4	4	3	3	3	4	3	3	3	3	3	3		3	4	3	3	3	4	4	4	4	3.3	23	5
24	FRI	4	3	2	3	2	2	3	4	4	3	3	2	2	2		3	4	3	3	3	6	6	6	6	3.4	23	7
25	SAT	6	5	4	4	4	3	3	3	3	3	3	3	2	2		3	3	3	3	3	4	4	4	4	3.4	23	6
26	SUN	3	3	3	2	2	1	1	1	1	1	1	1	2	2			1	1	2	3	3	3	3	2	1.9	22	4
27	MON	2	2	1	1	1	2	3	3	3	3	2	2	3	2		2	3	3	2	3	3	3	2	2	2.3	23	4
28	TUE	2	2	2	2	2	2	2	3	3		2	3	3	3		2	3	3	3	3	2	3	2	2	2.4	22	5
29	WED	2	1	1	2	2	2	2	3	3	2	2	2	2	2		2	2	3	3	4	4	5	5	.5	2.6	23	5
30	THU	5	4	4	3	2	3	3	2	3	2	2	2	2	2		2	2	2	3	4	5	5	5	5	3.1	23	6
31	FRI	5	5	5	4	5	4	4	4	4	3	3	2	2	2		2	3	3	2	4	6	7	7	8	4.1	23	8
MONTHLY MEAN		3	3	3	2	2	2	3	3	3	3	2	2	2	2		2	2	2	2	3	4	4	4	3	2.7		
NO. OF DAYS		20	20	20	20	20	20	20	20	19	18	19	19	20	20		16	21	21	21	21	21	21	21	21		459	
MAX. HRLY MEAN		6	5	5	5	5	4	4	6	6	6	3	3	3	3		3	4	3	3	4	6	7	7	8			

TABLE 3.65 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, APRIL 1963

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR.	1-HR MAX.
1	MON	3	3	3	3	3	3	3	4	4	6			2	2			3	4	5	5	5	6	4	3	3.7	20	7
2	TUE	4	4	4	3	3	3	4	4	5	3	2	2	2	2		2	2	3	3	4		2	2	3	2.9	22	5
3	WED	2	2	2	2	3	3	3	3	3	1	2	2	2	2		1	1	2	1	1	1	1	1	1	1.8	23	3
4	THU	1	1	1	1	0	1	1	1	1	1	2	2	2	2		2	2								1.3	16	4
5	FRI																											
6	SAT	3	3	4	5	6	4	3	3	5	5	5	4	3	2		3	3	3	5	7	9	9	8	7	4.7	23	10
7	SUN	7	6	6	5	6	5	5	4	3	3	3	2	1	1			2	2	3	4	5	5	5	4	3.9	22	7
8	MON	2	2	2	2	2	2	3	4	4	5	5					4	6	6	6	6	5	4	2	1	3.7	20	7
9	TUE	1	1	3	2	2	2	2	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2.0	23	3
10	WED	2	2	1	1	1	1	2	2	2	2	2	2	2	2			3	3	2	2	3	3	3	4	2.1	22	4
11	THU	3	2	1	1	1	2	2	1	2	2	3	2	2	2			2	2	2	3	3	3	2	2	2.0	22	3
12	FRI	2	1	2	3	4	3	4	4	6			3	3	2		3	3	3	3	4	5	5	6	5	3.4	21	6
13	SAT	5	5	5	5	4	4	3	3	3	3	2	2	2	2		2	2	2	2	2	3	3	3	2	3.0	23	6
14	SUN	3	2	2	2	1	2	2	1	1	1	1	1	1	2		1	2	2	3	3	3	4	3	4	2.0	23	4
15	MON	3	3	3	4	3	3	3	4	5	5	3	2	2	2		2	2	3	3	3	5	5	5	4	3.3	23	5
16	TUE	4	4	4	4	4	3	4	4	4							4	4	5	4	4	4	4	5	4	4.0	18	5
17	WED	4	3	3	2	2	4	4	3	2	2	2	2	2	2		2	2	2	2	1	1	1	1	1	2.1	23	4
18	THU	1	2	2	2	2	3	3	3	3		3	2	2	2		2	2	2	3	3	4	3	2	2	2.4	22	4
19	FRI	1	3	3	2	2	3	3	4	3	2	2	2	1	2		2	2	2	2	2	2	1	1	2	2.0	23	4
20	SAT	1	1	1	1	2	3	2	2	2	2	2	2	2	2		2	2	2	2	3	5	5	5	4	2.3	23	6
21	SUN	4	4	4	4	3	2	3	2	2	2	2	2	1	1			2	2	3	4	5	4	3	3	2.8	22	5
22	MON	2	2	1	0	1	2	2	2	2	2				2		2	2	3	3	3	3	3	3	2	2.1	20	3
23	TUE	1	1	1	1	1	1	1	2	2	2	2	2	2	2		3	3	3	3	3	2	2	2	2	1.9	23	3
24	WED	2	2	2	2	2	2	3	3	3		3	3	3	2		2	3	3	3	3	4	4	4	4	2.8	22	4
25	THU	4	3	3	2	2	2	3	3	3	2	2	2	1	1		2	2	3	2	3	3	4	4	4	2.7	23	5
26	FRI	3	3	4	5	5	5	4	6	8	6	4	4	3	3		3	4	3	3	4	5	6	5	4	4.4	23	10
27	SAT	5	5	5	5	4	4	5	6	9	4	2	1	1	1		2	2	1	2	3	3	3	3	3	3.4	23	11
28	SUN	2	3	2	2	1	1	1	0	0	0	0	1	0	0			1	1	1	2	1	1	1	1	1.0	22	5
29	MON	1	0	0	0	1	1	2	3	3		4	2					3	3	3	2	1	1	1	2	1.7	19	4
30	TUE	2	2	1	0	0	0	1	1	1	2	2	1	1			2	2	3	2	2	2	2	2	3	1.5	22	3
MONTHLY MEAN		3	3	3	2	2	3	3	3	3	3	2	2	2	2		2	2	3	3	3	3	3	3	3	2.7		
NO. OF DAYS		29	29	29	29	29	29	29	29	29	24	25	25	25	25		22	29	28	28	28	27	28	28	28		631	
MAX. HRLY MEAN		7	6	6	5	6	5	5	6	9	6	5	4	3	3		4	6	6	6	7	9	9	8	7			

TABLE 3-68 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, JULY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	1-HR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED																											
4	THU																											
5	FRI																											
6	SAT																											
7	SUN		3	3	3	2	2	2	2	3	3	3	3	3	3			3	2	2	3	4	6	5	5	3.1	21	8
8	MON	4	1	1	2	1	2	2	2	2	2				2		3	3	4	4	4	4	5	4	3	2.7	20	6
9	TUE	2	2	2	1	1	1	3	4	4	4	3	5	3	3		2	3	3	2	4	4	4	4	2	2.9	23	6
10	WED	1	1	1	2	3	5	6				2	2			2	3	3	3	4	5	7	7	6	6	3.6	19	8
11	THU	6	4	4	4	4	7	11					2	2	2		2	3	4	3	3	5	6			4.3	17	12
12	FRI										6	4	3	2	3		3	3	4	3	4	6	7	5	5	4.0	16	7
13	SAT	4											3	3	3		3	3	2	2	2	2	2	2	1	2.5	19	5
14	SUN	2	1	1	1	1	1	1	2	2	1	2	1	2	1		1	1	1	2	3	3	3	3	3	1.7	23	4
15	MON	2	2	3	2	2	2	3	3	4	3			2	2		2	2	3	2	3	4	4	5	4	2.0	21	5
16	TUE	4	3	3	3	2	3	4	4	4	5	4	5	[illegible]	2		2	3	3	3	3	4	5	5	5	3.5	23	6
17	WED	3	3	2	2	2	3	3	3	3	2	2	3	2	2		2	3	3	3	3	3	3	3	4	2.7	23	4
18	THU	4	2	1	3	2	2	2	3	3	3	3	2	2	2		2	2	2	2	2	2	2	2	2	2.2	23	4
19	FRI	1	1	1	1	1	1	1	1	1	1	1	2	2	2		1	1	1	2	1	2	1	1	1	1.2	23	2
20	SAT	1	1	1	1	1	1	2	2	2	1	2	2	2	2		1	1	1	1	2	2	2	2	2	1.5	23	2
21	SUN	1	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1	1	1	1	1	2	2	1	1.1	23	2
22	MON	1	1	1	1	1	1	1	1	2	3			2	2		2	3	3	4	3	2	2	2	1	2.0	21	4
23	TUE	1	1	1	1	1	1	0	1	3	5	4	1	1	1		0	0	0	0	0	0	0	0	0	0.9	23	6
24	WED	0									2	2	2	1	2		2	2	2	2	2	2	2	3	2	1.9	19	3
25	THU	2	2	2	2	2	2	2	2	3	3	3	3	3	3		2	3	3	3	3	4	4	4	3	2.7	23	5
26	FRI	4		2	2	3	3	3	3	2	2	2	2	2	2		2	2	3	3	3	3	2	2	2	2.3	23	4
27	SAT	2	2	2	2	2	1	2	2	2	1	1	1	1	1		1	1	1	1	2	2	2	2	2	1.5	23	3
28	SUN	2	2	2	1	1	1	1	2	2	1	1	1	1	2		1	1	1	2	2	2	1	2	2	1.6	23	3
29	MON	2	1	1	1	1	1	2	2	2	1			2	2		3	2	3	2	3	3	3	3	3	2.0	21	4
30	TUE	3	3	3	3	3	3	4	5	6	5	4	3	2	3		2	3	3	2	4	5	6	6	5	3.7	23	7
31	WED	5	3	4	3	4	3	3	4	6	6	3	4	2	1		3	2	3	2	3	4	3	3	3	3.2	23	7
MONTHLY MEAN		2	2	2	2	2	2	3	2	3	3	2	2	2	2		2	2	2	2	3	3	3	3	3	2.6		
NO. OF DAYS		23	22	22	22	22	22	22	20	20	22	19	21	23	24	1	24	25	25	25	25	25	25	24	24		529	
MAX. HRLY MEAN		6	4	4	4	4	7	11	5	6	6	4	5	4	3	2	3	3	4	4	5	7	7	6	6			

TABLE 3-67 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, JUNE 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	7	7	6	4	5	6	7	9	8	7	7	3	3	2		2	3	3	3	4	6	8	8	9	5.4	23	11
2	SUN	7	6	5	6	6	6	6	5	5	5	4	3	2	2			2	1	2	3	4	4	5	6	4.3	22	8
3	MON	5	5	4	4	4	3	3	5	9	9				4		5	6	6	7	4	4	3	3	4	4.8	20	12
4	TUE	3	3	2	1	1	2	3	4	3							4	4	5	4	5	4	5	4	3	3.3	18	5
5	WED	2	2	2	2	2	2	3	4	3	3	3	4	3	3		3	3	4	3	3	4	4	5	4	3.1	23	5
6	THU	4	4	3	3	3	3	4	5	6	6	4	3	2	3		6	6	7	5	4	5	4	4	4	4.2	23	8
7	FRI	4	4	4	4	4	4	4	6	11	8	4	3	4	3		2	3	4	6	6	5	5	4	3	4.5	23	13
8	SAT	2	2	2	1	1	1	1	2	3	3	3	3	2	1		1	2	1	2	2	3	3	3	3	2.0	23	4
9	SUN	3	3	2	2	2	1	1	2	1	2	2	1	1	2		1	1	1	1	2	3	3	3	2	1.8	23	4
10	MON	2	2	2	2	2	3	3	3	3	3	3			2		3	2	3	2	2	2	2	2	2	2.3	21	4
11	TUE	2	1	1	1	1	1	1	1	1	2	2	2	1				1	0	0	0	0	0	1	1	1.0	21	2
12	WED																											
13	THU											3	3	3	3		3	4	4	5	5	5	5	4	4	3.8	13	6
14	FRI	3	3	2	2	3	4	4	4	4			2	2	2		2	3	3	2	3	3	3	3	4	2.9	21	5
15	SAT	3	2	2	2	3	2	3	3	4	4	3	3	3	3		3	3	6	3	4	5	5	6	8	3.6	23	13
16	SUN	8	7	7	7	6	5	5	3	3	3	1	2	2	2			1	1	2	3	4	4	5	5	3.9	22	8
17	MON	5	5	4	4	4	4	5	6	7	6	4	3	2	2		2	3	3	3	3	7	7	7	7	4.4	23	8
18	TUE	6	6	6	6	6	6	7	12	20	13			2	2		2	4	4	3	3	5	7	8	7	6.3	21	22
19	WED	6	5	5	4	4	4	6	9	7	6	6	4	3	2		3	3	3	3	3	4	6	6	5	4.7	23	10
20	THU	2	2	3	4	4	3	3	3	3	3	3	3	3	3		3	4	4	5	6	5	4	4	4	3.5	23	6
21	FRI	4	4	3	2	2	2	3	4	4	3	3					3	4	4	4	3	4	5	5	5	3.6	20	6
22	SAT	5	5	5	5	4	4	5	7	5	3	2	2	2	2		2	2	2	2	2	4	4	5	6	3.7	23	9
23	SUN	6								3	3	2	2	2	2		2	2	2	3	3	4	6	7	6	3.3	16	7
24	MON	6	5	5	5	5	5	7	8	6	6	4	3	3	3		3	3	3	2	3	5	6	6	5	4.6	23	9
25	TUE	6	6	5	5	6	6	7	11	19	6	3	3	2	2		2	3	3	2	4	5	8	7	6	5.5	23	22
26	WED	6	5	5	5	5	5	4	7	17	11	4	3	2	3		3	3	3	3	4	5	5	7	7	5.3	23	23
27	THU	7	5	5	5	4	4	4	6	8	10	8	5	3	4		3	4	5	3	3	5	6	6	5	5.2	23	12
28	FRI																											
29	SAT																											
30	SUN																											
MONTHLY MEAN		5	4	4	4	4	4	4	5	6	5	4	3	2	2		3	3	3	3	3	4	5	5	5	3.9		
NO. OF DAYS		25	24	24	24	24	24	24	24	25	23	22	21	22	23		23	26	26	26	26	26	26	26	26		960	
MAX. HRLY MEAN		8	7	7	7	6	6	7	12	20	13	8	5	4	4		6	6	7	7	6	7	8	8	9			

TABLE 3-70 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, SEPTEMBER 1963

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR.	1-HOUR MAX.
1	SUN	4	4	3	4	4	3	3	3	5	5	3	2	2	2			2	2	2	4	4	5	5	5	3.4	22	6
2	MON	4	3	3	3	3	4	3	4	4							2	2	2	2	3	4	3	3	3	3.0	18	5
3	TUE	2	3	2	2	2	2	2	2	2	2	1	1	1	0											1.7	14	3
4	WED										1	1	2	2	2		2	2	2	2	2	2	2	2	2	1.8	14	3
5	THU	2	1	1	1	1	1	1	1	1	2	3	2	2	2		2	2	2	2	2	2	2	2	2	1.7	23	3
6	FRI	2	2	2	2	2	2	2	2	2	3	3	3	3	3		2	2	3	3	3	7	7	7	7	3.2	23	8
7	SAT	6	6	5	5	4	4	4	4	6	6	5	3	2	2		2	3	3	4	5	6	6	6	5	4.4	23	7
8	SUN	5	5	4	4	4	4	3	3	4	4	3	2	2	2		2	2	3	3	4	4	3	4	4	3.3	23	5
9	MON	5	4	4	3	3	3	3	3	9	13	12	6	4	3		3	3	3	4	5	6	6	5	5	4.9	23	14
10	TUE	4	4	4	3	3	3	4	5	7				4	3		4	4	5	4	5	5	5	5	4	4.2	20	8
11	WED	3	2	2	2	2	3	4	5	6	6	4	4	2	3		3	6	5	4	4	5	4	3	2	3.7	23	7
12	THU	1	1	1	2	2	1	3	4	4	3	3	2	2	2		3	4	5	4	4	4	3	2	3	2.7	23	5
13	FRI	2	2	2	2	2	2	2	2	2	2											3	3	3	3	2.3	14	3
14	SAT	3	2	1	1	1	1	1	2	2	2	2	2							2	2	2	2	2	2	1.7	18	3
15	SUN	2	2	2	1	1	1	1	1	1	2	2	2	2	2		1	1	1	2	2	2	2	2	2	1.6	23	3
16	MON																											
17	TUE	3	3	3	2	2	2	2	2	3	5									4	7	8	9	8	8	4.4	16	9
18	WED	8	8	6	7	6	6	6	7			15	12	6	5		3	5	6	7	10	11	10	10	8	7.6	21	16
19	THU	7	6	7	6	4	4	4	5	7		6	4	2	2		3	2	4	4	4	4	5	4	4	4.4	22	8
20	FRI	4	3	4	3	3	3	4	5	6	7						3	4	6	6	7	7	3	3	3	4.4	19	9
21	SAT	2	2	1	2	2	2	2	2	2	2	2	2	2	2		2	3	2	3	4	3	3	3	3	2.3	23	4
22	SUN	3	3	3	2	2	2	2	2	2	2	2	2	2	2		2	2	2	3	3	2	2	2	2	2.2	23	3
23	MON	2	2	2	2	2	2	2	2	3	2						2	3	3	3	4	4	3	3	3	2.5	19	4
24	TUE	2	2	2	2	2	2	3	3	4	3	2	2	2	2		2	3	4	4	4	3	4	3	4	2.7	23	5
25	WED	5	4	5	5	4	4	3	4	5	5								3	4	5	5	5	4	4	4.3	17	5
26	THU	4	3	3	3	3	3	3	3	6	12	9	4						4	5	6	5	5	5	4	4.8	19	14
27	FRI	4	4	4	3	3	3	3	4	7	15	12	5	3	3					3	4	4	4	4	4	4.7	20	17
28	SAT	4	4	3	3	3	3	3	3	4	4	6	5	4	4		2	3	3	4	3	3	3	3	3	3.5	23	7
29	SUN	3	2	3	2	2	3	3	3	3	2	2	2	2	2		1	2	2	2	2	2	2	2	2	2.2	23	3
30	MON	2	2	2	2	1	1	2	2	3	4	5	2				2	4	3	4	4	3	3	3	3	2.6	21	5
MONTHLY MEAN		3	3	3	3	3	3	3	3	4	5	5	3	3	2		2	3	3	3	4	4	4	4	4	3.3		
NO. OF DAYS		28	28	28	28	28	28	28	28	27	25	22	22	20	20		21	22	24	27	27	28	28	28	28		593	
MAX. HRLY MEAN		8	8	7	7	6	6	6	7	9	15	15	12	6	5		4	6	6	7	10	11	10	10	8			

TABLE 3-69 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, AUGUST 1963

DAY	OF	A M												P M												DAILY MEAN	NO. OF HR	1-HOUR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	2	2	2	1	2	2	2	3	3	2	2	2	1	1		2	3	3	2	3	4	4	4	4	2,4	23	9
2	FRI	4	3	3	3	3	3	3	5	13	11	5	4	3	2		3	4	4	3	4	4	4	4	4	4,3	23	14
3	SAT	5	5	5	4	3	4	4	4	3	3	2	2	2	1		1	1	1	1	2	2	2	2	2	2,6	23	6
4	SUN																											
5	MON	3	3	3	3	3	3	3	4	4	6	5	3	3	2		2	3	2	2	3	4	4	3	3	3,2	23	7
6	TUE	3	3	2	2	2	2	4	4	4		3	4	3	2		3	3	4	3	3	3	3	3	2	2,9	22	5
7	WED	2	2										2	2	2		2	3	3	2	3	4	4	3	3	2,6	14	4
8	THU	2	2	2	3	2	2	3	3	4	4	3	2	2	2		2	2	2	2	3	4	4	5	4	2,8	23	5
9	FRI	4	4	3	3	3	2	3	4	6	6	3	2	2	2		3	3	4	3	3	3	3	3	4	3,3	23	7
10	SAT	4	4	3	2	1	1	2	2	2	1	1	1	1	1		2	2	2	3	4	5	4	5	6	2,6	23	6
11	SUN	5	4	4	4	3	3	3	5	7	8	6	3	3	2			2	2	2	3	4	5	5	5	4,0	22	9
12	MON	4	3	3	3	3	3	3	3	4	5						3	3	4	3	3	3	4	3	2	3,3	19	6
13	TUE	2	1	1								3	2	2	2		2	2	2	2	2	2	2	2	2	2,0	16	3
14	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2		2	3	4	3	3	3	3	4	3	2,3	23	4
15	THU	3	3	3	3	3	3	3	4	4	3	3	3	2	3		2	3	3	3	3	5	5	5	4	3,3	23	5
16	FRI	4	4	4	4	4	2	2	3	6	5	3	2	2	2		2	3	3	3	4	4	4	4	4	3,3	23	6
17	SAT	4	3	4	4	3	3	3	2	2	2	2	2	2	2		2	2	2	2	2	2	2	2	2	2,4	23	5
18	SUN	2	2	2	2	2			1	1	1	2	2	1	1		1	1	2	2	3	2	2	2	2	1,7	21	3
19	MON	2	2	2	2	2	2	2	2	2	2			3	4		3	4	4	4	3	3	3	3	3	2,7	21	5
20	TUE	3	2	2	1	2	1	2	2	2	3			3	3		3	4	4	3	3	4	3	3	3	2,6	21	4
21	WED	3	3	3	3	3	3	3	4	6	12	14	4	2	3		2	2	2	3	4	5	6	5	5	4,3	23	16
22	THU	5	4	4	4	3	4	4	5	10	16	14	6	3	4		2	3	5	4	4	6	6	5	5	5,4	23	18
23	FRI	5	4	4	4	3	3	3	5	8	10	6	3	2	2		2	3	4	4	4	5	5	5	3	4,2	23	11
24	SAT	3	2	2	2	2	2	2	2	3	3	3	3	3	3		3	3	2	2	2	3	2	3	2	2,4	23	4
25	SUN	1	1	1	1	1	1	1	1	1	1	1	2	2	2											1,2	14	2
26	MON																											
27	TUE	4	3	3	3	2	2	3	3	4	9	13	6	2	2											4,1	14	14
28	WED																											
29	THU																											
30	FRI																											
31	SAT	3	3	3	4	3	3	3	3	3	3	2	3	2	2	2	2	2	2		2	4	4	4	4	2,9	23	5
MONTHLY MEAN		3	3	3	3	2	2	3	3	4	5	4	3	2	2		2	3	3	3	3	4	4	4	3	3,1		
NO. OF DAYS		26	26	25	24	24	23	23	24	24	23	22	23	25	25	1	23	24	24	23	24	24	24	24	24		552	
MAX. HRLY MEAN		5	5	5	4	4	4	4	5	13	16	14	6	3	4	2	3	4	5	4	4	6	6	5	6			

TABLE 3-72 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, NOVEMBER 1963

DAY OF		A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR.	MAX.
1	FRI	3	3	3	3	3	4	4	3	4	3	3	3	3	3		2	3	4	4	4	4	4	3	3	3.3	23	5
2	SAT	3	3	2	3	2	2	2	2	2	2	2	2	2	2		2	3	3	3	3	3	3	3	3	2.4	23	4
3	SUN	2	2	2	2	2	2	3	2	2	3	3	2	3	4		2	4	5	6	6	5	6	5	6	3.4	23	7
4	MON																											
5	TUE	2	2	2	2	1	1	1	2	2	2	3	3	3	3		3	3	2	2	2	2	2	2	2	2.1	23	4
6	WED	2	2	2	1	1	2	1	1	2	2	2	2	2	2		1	2	2	1	1	1	2	2	2	1.6	23	3
7	THU	1	2	2	2	2	1	1	1	1	1	2	2	1	2		2	3	3	3	3	3	3	3	2	1.9	23	3
8	FRI	2	2	2	1	1	1	1	1	1	2	3	2	2	2		2	3	3	3	3	3	3	3	2	2.1	23	4
9	SAT	3	3	3	2	2	1	1	1	2	2	4	5	5	3		3	3	4	4	3	3	4	4	4	2.9	23	6
10	SUN	4	4	3	3	3	3	2	2	2	2	2	3	2	3			3	3	4	4	4	4	3	3	2.9	22	4
11	MON	2	3	3	2	2	2	1	1	2			2	2	2		2	2	2	1	1	1	1	1	1	1.7	21	3
12	TUE	1	1	1	1	1	0	0	0	1	2			2	2		2	2	2	2	1	1	1	1	1	1.1	21	2
13	WED																											
14	THU											1	1	1	2		2	1	1	1	1	1	1	1	1	1.1	13	3
15	FRI																											
16	SAT																											
17	SUN	3	2	3	3	3	3	3	3	2	2	1	1	1	1		2	2	2	2	3	2	2	2	2	2.1	23	3
18	MON	2	2	2	2	2	2	2	2	3			2	2	2		1				4	3	3	3	3	2.3	18	4
19	TUE	3	3	2	2	2	2	3	4	4	3	6	7	6	5		6	7	6	6	4	3	3	3	3	4.0	23	8
20	WED	2	2	2	2	2	2	3	2	3	4	4	3	3	3		4	4	4	4	4	3	3	3	3	3.0	23	4
21	THU	3	2	2	2	3	3	3	3	3	3			3	3		3	3	3	3	3	3	3	2	2	2.7	21	4
22	FRI	2	2	2	2	2	2	2	2	2	2	3	4	4	4		4	4	4	4	3	3	2	2	3	2.8	23	4
23	SAT	2	1	1	2	2	2	2	1	1	1	1	2	2	2		2	2	2	2	2	2	2	2	2	1.7	23	3
24	SUN	2	2	2	2	2	2	2	2	2	2	2	2	3	3		3	3	2	2	3	4	4	3	3	2.4	23	4
25	MON	3	3	2	2	2	2	2	2	2	3	3	3	3	3		3	4	4	4	4	4	4	4	4	3.0	23	4
26	TUE																											
27	WED										3	3	3	3	4		3	5	5	5	5	5	4	4	4	4.0	14	5
28	THU	4	3	3	3	3	3	2	2	2	2	2	3	3	3		2	3	3	3	3	3	3	3	3	2.7	23	4
29	FRI	2	2	1	1	1	1	2	2	2	2	2	2	2	2		2	3	3	3	2	3	2	3	3	2.0	23	3
30	SAT	3	2	2	2	2	2	2	2	2	2	2	2	2	2		2	3	3	3	2	2	2	2	2	2.2	23	3
MONTHLY MEAN		2	2	2	2	2	2	2	2	2	2	2	3	3	3		2	3	3	3	3	3	3	3	3	2.5		
NO. OF DAYS		23	23	23	23	23	23	23	23	23	22	21	23	25	25		24	24	24	24	25	25	25	25	25		544	
MAX. HRLY MEAN		4	4	3	3	3	4	4	4	4	4	6	7	6	5		6	7	6	6	6	5	6	5	6			

TABLE 3-71 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, OCTOBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HRS	[illegible]
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	3	3	3	2	2	2	2	2	3	3			1	2		1	2	2	3	3	3	3	3	3	2.5	21	4
2	WED	3	2	2	2	2	2	2	5	2	2	3	2	2	2		1	1	2	2	2	2	2	2	1	2.1	23	8
3	THU	1	1	1	1	1	2	2	3	3	2							3	3	3	3	3	2	2	2	2.0	18	3
4	FRI	2	2	2	2	2	2	2	2	2	5	5	5	5	5		3	5	5	5	6	7	6	5	5	3.8	23	7
5	SAT	5									8	6	4	3	3		2	3	3	4	5	5	4	3	3	3.9	15	9
6	SUN	3	2	2	2	2	1	1	1	5	7	8	7	3	3			3	3	6	6	6	6	7	6	4.1	22	10
7	MON	5	5	4	4	4	3	3	4	7	6	4	2	2	2		0	0			7	5	5	3	4	3.6	21	8
8	TUE	5	5	5	4	4	4	4	4	4	5			4	4		3	4	5	5	6	5	5	5	5	4.5	21	6
9	WED	5	5	4	4	4	4	4	4	8	15	7	5	3	4		4	5	6	8	11	11	9	8	7	6.3	23	17
10	THU	6	6	5	4	4	5	4	5	6			5	3	3		2	4	6	6	6	5	5	5	5	4.7	21	8
11	FRI	5	4	4	4	4	4	4	5	5	5	5	5	5	5		3	6	8	8	7	7	6	6	6	5.2	23	8
12	SAT	4	3	2	2	1	2	2	3	2	3	3	3	3	2		2	3	3	4	4	4	3	3	2	2.7	23	5
13	SUN	2	2	2	2	3	2	2	2	2	2	2	2	1	2		1	2	2	3	3	3	4	4	4	2.4	23	4
14	MON	4	4	4	3	4	3	3	3	5	8				3		3	5	6	7	7	8	8	7	7	5.0	20	10
15	TUE	5	5	5	4	4	4	6	5	8	9	9	8	6	4			5	7	9	8	8	7	6	6	6.2	22	11
16	WED	5	5	5	4	4	4	4	5	6	8	11	8	6	3		3	4	5	6	7	6	5	5	5	5.4	23	11
17	THU	4	4	4	4	3	3	3	4	6	11	13	8				3	4	6	6	6	6	5	5	4	5.4	21	17
18	FRI	4	4	4	4	3	3	4	4	7	10	10	13	6	4		4	5	7	8	8	7	6	6	5	5.9	23	14
19	SAT	5	4	4	4	4	4	4	4	5	6	8	9	4	3											4.8	14	10
20	SUN								3	3	3	6	4	4	3			7	8	8	8	8	6	6	5	5.5	15	9
21	MON	5	5	4	4	4	4	4	4	5	8			6	6					9	9	9	9	8	8	6.2	18	9
22	TUE	7	7	6	6	6	5	5	4	6	11	15	10	7	5		4	5	8	9	9	9	8	7	6	7.2	23	16
23	WED	5	5	4	4	4	4	4	3	4	5	4	5	7	4		3	5	8	8	7	7	7	7	7	5.3	23	9
24	THU	5	5	4	4	4	3	3	3	3	3	4	5	4	3		4	5	6	6	5	5	5	5	5	4.2	23	6
25	FRI	4	5	5	5	3	4	3	3	4					3		3	3	5	6	6	6	7	6	6	4.6	19	7
26	SAT	5	4	4	4	4	3	3	3	4	5	6	5	4	2		2	3	4	5	5	5	4	5	4	4.0	23	6
27	SUN	4	4	4	4	3	3	3	3	5	6	6	4	2	3		3	3	4	3	3	3	3	3	3	3.6	23	7
28	MON	2	2	2	2	2	2	2	2	3				4	4		3	4	4	4	4	3	3	3	2	2.8	20	4
29	TUE	2	2	2	2	1	2	2	2	2	2	3	2	2	2		2	2	3	3	3	3	3	3	2	2.3	23	3
30	WED	2	2	2	2	2	2	2	2	4									2	3	3	3	4	4	4	2.7	16	5
31	THU	4	4	3	3	3	2	2	2	3	4	3	4	3	3		4	6	7	7	7	7	7	7	3	4.2	23	8
MONTHLY MEAN		4	4	3	3	3	3	3	3	4	6	6	5	4	3		3	4	5	6	6	6	5	5	4	4.3		
NO. OF DAYS		30	29	29	29	29	29	29	30	30	27	22	23	26	28		24	28	28	29	30	30	30	30	30		649	
MAX. HRLY MEAN		7	7	6	6	6	5	6	5	8	15	15	13	7	6		4	7	8	9	11	11	9	8	8			

TABLE 3-74 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, JANUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	1-HR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED																											
4	THU																											
5	FRI																											
6	SAT																											
7	SUN																											
8	MON																											
9	TUE																											
10	WED																											
11	THU																											
12	FRI																											
13	SAT																											
14	SUN																											
15	MON																											
16	TUE																											
17	WED																											
18	THU																											
19	FRI																											
20	SAT																											
21	SUN																											
22	MON																											
23	TUE	0										0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	19	1
24	WED	0		0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	1
25	THU	0		0	0	0	0	0	0	0			0		0	0	0	0	0	0	0	0	0	0	0	0.0	20	0
26	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.1	23	1
27	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	23	1
28	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
29	MON	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
30	TUE	0		1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0.2	23	1
31	WED	0		0	0	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0.1	20	1
MONTHLY MEAN																												
NO. OF DAYS		9		8	8	8	8	8	8	7	6	7	8	8	9	9	9	9	9	9	9	9	9	9	9		192	
MAX. HRLY MEAN		0		1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0			

TABLE 3-73 HOURLY AVERAGES OF NITROGEN DIOXIDE, pphm (colorimetric analysis) CINCINNATI, DECEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	2	2	2	2	2	2	2	2	2	1	2	1	1	2			2	3	3	2	2	2	2	2	1.9	22	3
2	MON	2	2	2	2	2	2	2	2	2	3	2	2	2	2		3	3	3	3	3	3	3	3	3	2.5	23	4
3	TUE	3	3	3	3	2	2	3	3	3	3	4	3	3	3		3	4	4	3	3	3	3	3	3	3.0	23	4
4	WED	3	3	2	2	2	2	2	2	2							3	3	3	3	3	3	3	3	2	2.5	18	4
5	THU	2	2	2	2	2	2	2	2	2	2	2	2	3	3		3	3	4	3	3	3	3	3	3	2.5	23	4
6	FRI	3	2	2	2	2	2	2	2	3	3	2	2	2	3		3	4	4	4	4	4	3	3	3	2.8	23	4
7	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3		3	4	4	4	4	3	3	2	2	3.1	23	4
8	SUN	2	2	1	1	1	2	2	1	1	1	2	2	2	3			2	3	3	3	3	2	2	2	1.9	22	3
9	MON	1	1	2	2	1	1	2	2	3				2	2		2	2	3	2	3	2	3	3	2	2.0	20	3
10	TUE	2	2	2	2	2	2	2	2	3	3	3	3	3	3		4	4	4	4	4	4	4	4	4	3.1	23	5
11	WED	4	3	3	3	3	2	3	3	3	3	3	3	3	3											3.0	14	4
12	THU											2	2	2	2		3	3	3	3	2	2	2	3	2	2.3	13	3
13	FRI	2	2	2	2	2	2	2	3	2			3	3	2		3	3	3	3	3	2	2	2	2	2.4	21	4
14	SAT	2	2	2	1	1	1	2	1	1	2	2	2	2	2		2	2	3	3	3	2	2	2	2	1.9	23	3
15	SUN	2	2	2	2	1	2	2	2	2	2	2	2	2	2			2	2	3	3	2	2	2	2	2.0	22	3
16	MON	2	2	2	2	2	2	2	2	2	3			3	3		3	3	3	3	3	3	3	3	3	2.5	21	3
17	TUE	3	2	3	3	2	3	3	3	3	3	3	3	3	3		3	3	3	3	3	3	2			2.8	21	4
18	WED																											
19	THU	2	2	2	2	2	2	2	2	2	3	3	2	2	2		3	3	3	3	3	3	3	3	2	2.4	23	3
20	FRI	2	2	2	2	2	2	2	2	2	2	3	2	2	2		2	2	2							2.2	17	3
21	SAT																											
22	SUN	3	3	3	2	2	2	2	2	2	2	2	3	3	3			3	3	3	3	3	2	2	2	2.5	22	4
23	MON	2	2	2	2	2	2	1	1	3	4	4	4	4	4		3	4	4	4	4	4	3	3	3	2.9	23	5
24	TUE	2	2	2	2	2	2	2	2	2	3	3	3	3	3		3	3	3	3	2	2	2	2	2	2.4	23	4
25	WED	2	2	1	1	2	2	2	3	3	3	3	3	2	3		3	3	4	4	4	4	4	4	3	2.8	23	4
26	THU	3	3	3	2	2	2	2	2	3				3	3		4	4	5	5	5	5	5	3	2	3.2	20	6
27	FRI	1	1	1	1	1	1	2	2	2	2	2	2	2	2		2	2	2	2	2	2	1	1	2	1.6	23	3
28	SAT	2	2	2	2	2	2	1	1	2	2	2	2	2	3		3	3	4	4	3	3	3	3	3	2.4	23	4
29	SUN	3	2	2	2	2	2	2	2	2	2	1	2	2	2			2	2	3	2	2	2	2	2	2.0	22	3
30	MON	2	1	2	2	2	2	2	2	3	4	5	5				4	3	3	3	3	3	3	3	2	2.8	21	6
31	TUE	2	2	2	2	2	2	2	2	2	3	3	3	3	3		3	3	3	3	3	3	3	3	2	2.5	23	4
MONTHLY MEAN		2	2	2	2	2	2	2	2	2	3	3	3	2	3		3	3	3	3	3	3	3	3	2	2.5		
NO. OF DAYS		28	28	28	28	28	28	28	28	28	24	24	25	27	27		23	28	28	27	27	27	27	26	26		618	
MAX. HRLY MEAN		4	3	3	3	3	3	3	3	3	4	5	5	4	4		4	4	5	5	5	5	5	4	4			

TABLE 3-76 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, MARCH 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	1-HR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	1		1	1	1	1	0	0	0	0	1	1	1	1	0	1	1	1	0	0	0	0	0	0	0.4	23	2
2	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
3	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
4	SUN	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	0
5	MON	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	1
6	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0.1	23	1
7	WED	0			0	0	0	0	0	0	0	0	0	1	1				0	0	0	0	0	0	1	0.2	19	2
8	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	1
9	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
10	SAT	0			0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	22	1
11	SUN	0		0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	2	0.2	23	4
12	MON	1			0	0	0	0	0	0	0	0	1	2	1	0	1	0	1	1	0	2	2	2	3	0.7	22	3
13	TUE	3		0	1	2	3	2	1	1	0	0	1	1	1	2	1	0	0	0	1	1	2	1	0	1.0	23	4
14	WED	1		2	2	2	2	1	0	0	0	0	0	1	0	1	1	0	1	1	1	1	1	0	0	0.7	23	3
15	THU	0		0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	2
16	FRI	0		0	0	0	0	0	0	1				1	1	1	0	1	1	1	1	1	0	0	0	0.4	20	2
17	SAT	0		0	0	0	0	0	1	1	1	2	2	3	3	3	2	2	1	2	1	1	1	1	0	1.1	23	4
18	SUN	0		0	0	0	0	0	0	0	0	1	2	3	1	2	4	4	4	2	1	0	0	0	0	1.0	23	6
19	MON	0		0	0	0	0	0	0	0	0	1	1	2	3	4	5	4	4	3	1	1	0	3	0	1.4	23	5
20	TUE	2		0	0	0	0	0	0	0	0								1	1	1	1	2	1	2	0.5	16	3
21	WED	2		1	0	1	0	0	0	0	0				1	2		0	0	0	1	0	0	1	2	0.6	19	3
22	THU	2		1	1	1	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.3	23	3
23	FRI	0		0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0.2	23	5
24	SAT	0			0	0	0	0	0	0	0	1	3	4	4	4	4	5	3	3	2	1	2	1	1	1.7	22	6
25	SUN	1		0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0.2	23	1
26	MON	0			0	1	0	0	0	0	0	1		0	0	1	1	1	1	1	0	0	0	0	0	0.3	21	2
27	TUE	0		0	0	0	0	0	0	0	0	0	1	2	3	3	3	4	3	3	0	0	0	0	0	0.9	23	6
28	WED																											
29	THU																											
30	FRI																											
31	SAT			0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	1	0.3	22	2
MONTHLY MEAN		0		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0.4		
NO. OF DAYS		27		21	28	28	28	28	28	28	27	25	24	26	27	26	25	26	28	28	28	28	28	28	28		618	
MAX. HRLY MEAN		3		2	2	2	3	2	1	1	1	2	3	4	4	4	5	5	4	3	2	2	2	3	3			

TABLE 3-75 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, FEBRUARY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	0		0	0	0	0	0	0	0	0	0	0						0	0	0	0	0	0	0	0.0	18	0
2	FRI	0		0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0.0	21	0
3	SAT	0		0	0	0	0	0	0	0	0	0	0	1	2	2	3	1	0	0	0	0	0	0	0	0.4	23	3
4	SUN	0		0	0	0	0	0	0	0	0	0	1	1	2	3	4	5	2	0	0	0	1	2	3	1.0	23	5
5	MON	2		2	2	2	0	0	0	0	0	0							0	0	0	0	0	0	0	0.5	17	3
6	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
7	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
8	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
9	FRI	0		0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	21	0
10	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	23	1
11	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
12	MON	0		0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0.0	21	1
13	TUE	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0	22	2
14	WED	2		1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	23	2
15	THU	0		0	1	1	0	0	0	0	0		0	0	0	1	0	0	0	0	0	0	0	0	0	0.2	22	1
16	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
17	SAT	0		1	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0.2	23	2
18	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
19	MON	0		0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1	0.3	23	2
20	TUE	1		1	1	1	0	0	0	0	0	1			0	1	1	1	0	0	0	0	0	0	0	0.3	21	2
21	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
22	THU	1		0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	1	0	0	0	0	0	0.3	23	2
23	FRI	0		0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	1
24	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
25	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0.1	23	1
26	MON	0		1	0	0	0	0	0	0	0	0	1	1	0	1	1	1	0	0	0	0	0	0	0	0.3	23	2
27	TUE	0		0	0	0	0	0	0	0	0	0								0	0	0	0	0	0	0.0	16	0
28	WED	0		0	0	0	1	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0.1	22	1
MONTHLY MEAN		0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1		
NO. OF DAYS		28		27	28	28	28	28	28	28	27	25	24	24	25	25	23	24	27	28	28	28	28	28	28		619	
MAX. HRLY MEAN		2		2	2	2	1	0	0	0	0	1	1	1	2	3	4	5	2	1	0	0	1	2	3			

TABLE 3-78 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, MAY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	1-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	0		4	3	1	2	0	1	1	3			1	2	0	3	3	2	2	1	1	0	1	3	1.6	21	4
2	WED	2		1	0	0	0	0	0	0	2	2	3	3	3	3	3	2	2	1	0	0	0	0	0	1.2	23	4
3	THU	0		0	0	2	1	0	0	0	0	1	2	3	4	4	4	4	4	4	2	1	0	0	0	1.6	23	5
4	FRI	0		0	0	0	0	0	0	0		1	4	5	5	5	5	5	4	4	3	3	2	2	1	2.3	22	6
5	SAT	1		1	0	0	0	0	0	0	1	5	5	6	6	7	7	6	6	5	4	2	1	0	1	2.8	23	7
6	SUN	3		4	2	2	0	1	1	1	3	4	4	5	4	3	5	5	4	5	3	2	2	2	2	2.9	23	6
7	MON	2	1	2	1	0	0										4	4	3	2	0	0	0	1	0	1.3	15	5
8	TUE	0		0	0	0	0	0	0	0	0	0	0	2	1	1	3	4	4	3	3	0	0	2	1	1.0	23	5
9	WED	1		0	0	0	0	0	0	0	0	1	1	3	3	4	4	3	4	4	3	1	1	1	1	1.4	23	5
10	THU	1		1	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0.2	23	2
11	FRI	0		0	0	0	0	0	0	0			4	5	6	7	6	6	5	4	3	1	1	1	1	2.4	21	7
12	SAT	2		0	0	1	1	1	0	0	2	5	6	5	6	5	6	6	7	7	5	3	1	1	1	3.1	23	9
13	SUN	0		0	0	0	0							1	1	1	3	2	2	2	1	0	0	0	0	0.7	17	3
14	MON	0		0	0	0	0	0	0	0			1	3	4	4	4	3	2	2	1	0	0	0	0	1.1	21	5
15	TUE	0		0	0	0	0	0	0	0	0	0	0	4	4	4	4	5	4	4	3	1	1	0	0	1.4	23	6
16	WED	0		0	0	0	0	0	0	5	14	8	5	7	8	10	11	10	10	10	6	1	1	0	0	4.6	23	17
17	THU	0			0	0	0	0	0	1	11	12	9	10	10	10	9	6	8	7	3	3	1	0	0	4.4	22	20
18	FRI	0		0	0	0	0	0	0	0	1	3	6	10	9	10		10	10	10	6	2	2	3	2	3.8	22	12
19	SAT	0		0	0	0	0	0	0	1	6	6	5	7	7	7	7	7	7	6	5	3	2	3	2	3.5	23	8
20	SUN	3		3	3	2	2	1	1	4	5	5	5	5	5	5	4	5	4	2	2	1	1	1	1	3.1	23	6
21	MON	1			0	1	0	0		1	1							1	3	3	1	2	2	1	1	1.1	15	5
22	TUE	1		1	2	2	2	1	0	0	2	1	0	2	4	5	5	5	5	5	4	3	3	2	2	2.4	23	6
23	WED	2		3	2	0	0	0	0	1	2	2	3	5	6	6	7	6	6	5	3	3	4	4	3	3.1	23	7
24	THU	1		2	2	0	1	2	2	3	3	5	5	5	5	5	4	4	5	4	2	1	1	0	1	2.7	23	6
25	FRI	1		0	0	0	0	0	0	0	0	1	0	0	1	1	1	3	1	0	1	0	0	0	0	0.4	23	4
26	SAT	0		0	0	0	0	0	0	0	1	4	3	2	2	2	1	2	3	2	1	1	1	0	0	1.1	23	6
27	SUN	0		0	0	0	0	0	0	1	1	0	2	2	1	2	2	1	0	0	0	1	1	0	0	0.6	23	4
28	MON	0		0	0	0	0	0	0	0	0	3	5	6	6	6	4	2	1	1	1	1	1	1	0	1.6	23	7
29	TUE	0		0	0	0	0	0			0	0	0								1	1	1	0	2	0.3	16	2
30	WED																											
31	THU																											
MONTHLY MEAN		1		1	1	0	0	0	0	1	2	3	3	4	4	4	4	4	4	4	2	1	1	1	1	2.0		
NO. OF DAYS		29	1	27	29	29	29	27	25	26	24	23	25	26	26	26	26	28	28	28	29	29	29	29	29		627	
MAX. HRLY MEAN		3	1	4	3	2	2	2	2	5	14	12	9	10	10	10	11	10	10	10	6	3	4	4	3			

TABLE 3.77 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, APRIL 1967

DAY OF		A M												P M												DAILY	NO.	LARG
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF OBS	[illegible]
1	SUN	1		0	0	0	0	0	0	0	0	0	0	0	1	1	1	2	2	1	1	0	1	0	0	0.6	23	3
2	MON	0			0	0	0	0	0	2	2				2	2	2	2	1	2	1					1.0	19	3
3	TUE																											
4	WED																											
5	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								0.0	16	1
6	FRI																											
7	SAT	0		0	0	0	1	1	1	1	2	3		4	2	3	3	2	2	2	1	0	0	0	0	1.3	22	4
8	SUN	0		0	0	0	0	0	0	1	1	2	1	2	4	3	2	2	1	1	2	0	1	0	2	1.1	23	5
9	MON	0		2	1	1	1	1	0	0	1			2	2			2	1	1	2	2	1	0	0	1.1	19	3
10	TUE	0		0	0	0	0	0	0	0	0	1	2	2	2	2	2	1	1	0	1	0	1	1	1	0.7	23	3
11	WED	0		1	2	1	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0.4	23	2
12	THU	0		0	0	0	0	0	0	0	0	0	0	1			0	0	0	0	1	2	1	1	1	0.4	21	3
13	FRI	1		3	3	3	2	1	1	1	0	0	1	1	1	1	2	2	1	1	2	0	0	0	0	1.2	23	3
14	SAT	0		0	0	0	0	0	0	0	1	1	3	2	3	4	4	3	3	3	3	2	1	2	2	1.6	23	4
15	SUN	2		2	2	2	1	0	1	1	2	1	1	1	0	1	2	2	2	1	1	1	1	0	0	1.1	23	3
16	MON	1		0	0	0	0	0	0	0	0	1	1		2	3	3	2	2	3	1	0	0	0	0	0.9	22	4
17	TUE	0			0	0	0	0	0	0	0	1	0	1	2	1	1	1	2	1	0	0	0	0	1	0.5	22	3
18	WED	1		2	2	2	0	0	0	0			2	3	4	4	4	4	4	4	2	1	1	0	0	1.8	21	4
19	THU	0			0	0	0	0	0	0	0	1	2	2	2	2	3	3	3	3	2	1	1	1	1	1.1	22	4
20	FRI	1		0	0	0	0	0	0	0	0	1	1	1	2	4	4	4	4	3	3	1	1	1	0	1.2	23	5
21	SAT	0		0	0	0	0	0	0	0	1	1	2	2	2	2	2	2	1	1	1	1	1	1	0	1.0	23	5
22	SUN	0		0	2	2	2	2	2	2	2	3	4	5	5	5	5	5	4	4	2	1	0	0	2	2.4	23	6
23	MON	1			1	2	1	0	0	0	1	2	2	3		4	4		4	3	3	1	0	0	0	1.6	20	4
24	TUE	0		0	0	0	0	0	0	0	0	2	3	5	8	8	6	1	3	4	4	2	1	0	0	2.0	23	8
25	WED	0		0	0	0	0	0	0	1	3	5	6	7				4	5	4	2	1	1	0	0	2.0	20	7
26	THU	0		0	0	0	0	0	0	0	0	2	4	5	5	5	5	5	5	5	3	1	1	0	0	2.0	23	6
27	FRI	0		0	0	0	0	0	0	1	2	3	4	3	3	3	2	2	2	2	1	1	0	1	0	1.3	23	5
28	SAT	0		1	3	3	3	1	1	1	1	1	1	1	1	1	2	1	1	1	2	2	2	2	2	1.5	23	3
29	SUN	2			1	1	1	1	1	0	1	2	2	3	3	3	3	3	3	2	3	2	2	2	1	1.8	22	5
30	MON	0	0	1	1	1	0	0	0	0	2	2	3	4	4	4	4	3	4	3	2	1	1	0	0	1.6	24	5
MONTHLY MEAN		0		1	1	1	0	0	0	0	1	1	2	2	3	3	3	2	2	2	2	1	1	1	1	1.2		
NO. OF DAYS		27	1	22	27	27	27	27	27	27	26	24	24	25	24	24	25	26	26	26	26	25	25	25	25		980	
MAX. HRLY MEAN		2	0	3	3	3	3	2	2	2	3	5	6	7	8	8	6	5	6	5	4	2	2	2	2			

TABLE 3-80 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, JULY 1962

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	SUN	0											9	10	11	11	9	8	7	6	5	4	2	3	2	6.1	14	14
2	MON	3	3	3	3	3	3	3	2		1	2	0	1	1	5	6	6	6	5	5	3	3	3	2	3.1	23	9
3	TUE	1		1	0	0	0	1	2	1	0	1	1	2	3	1	4	4	4	4	3	2	2	2	1	1.8	23	5
4	WED	1		2	1	2	2	2	0	2	5			8	8	9	9	10	10	10	8	4	3	2	2	4.7	21	14
5	THU	1		2	2	0	0	0	0	1	2				5	4	4	5	5	3	3	2	1	0	0	2.0	20	6
6	FRI	0		2	2	2	1	1	1	1	3	2	3	2		5	3	3	5	4	4	3	1	1	1	2.2	22	6
7	SAT	1		0	0	0	0	0	0	1	0	3	0	5	7	6	7	6	7	7	7	5	2	1	1	2.9	23	9
8	SUN	1		1	1	0	1	0	1	2	3	5	4	5	5	4	5	4	3	3	2	1	2	1	2	2.5	23	7
9	MON	3			3	1	2	1		1	2	4	4	4	4	4	3	3	4	3	2	1	0	1	0	2.4	21	6
10	TUE																											
11	WED									1	2	4	6	7	6	7	8	7	7	7	6	4	4	3	3	5.0	16	10
12	THU	2		1	1	0	0	0		2	4	4	5	5	5	5	5	5	6	5	4	2	1	1	1	3.0	22	7
13	FRI	1		1	0	0	0	0		4	6	6	1	3	6	6	7	6	6	5	3	3	3	2	0	3.2	22	9
14	SAT	0		1	1	2	2	1	1	0	0	1	2	4	5	6	7	8	7	5	4	1	1	1	1	2.6	23	8
15	SUN																											
16	MON																											
17	TUE	0		0	0	0	0	1			2	2	3	3	3	4	4	3	2	1	1	2	2	1	2	1.7	21	6
18	WED																											
19	THU																											
20	FRI	0		0	0	0	0	0	0	1	3	4	4	5					5	2	0	0	1	3	2	1.5	19	6
21	SAT	1		2	5	5	4	3	2	1	2	3	4	4	5	5	5	5	5	4	4	3	2	1	1	3.1	23	7
22	SUN	1		1	1	0	0	0	0	1	0	0	2		4	3	5	5	5	4	4	1	1	1	0	1.8	22	8
23	MON	0			3	1	1	1		1	2	0	1	3	4	3	4	4	4	4	3	2	1	1	0	2.0	21	6
24	TUE	2		0	0	0	0	0	0	0						5	5	3	1	3	2	1	1	2	1	1.4	18	6
25	WED	1		0	1	1	0	0	0	0	1	1	3	4	4	5	5	5	5	5	3	2	3	3	2	2.4	23	6
26	THU	2		1	1	2	0	0	1	2	2	2	3	3	3	4	6	3	3	3	3	2	1	0	0	2.0	23	14
27	FRI	0		0	0	0	0									4	5	4	4	4	3	2	1	1	0	1.9	15	6
28	SAT	0		0	0	1	0	0	0	1	2	4			3	3	3	3	3	5	5	3	1	1	0	1.7	21	8
29	SUN	1		2	2	0	0	0	0	0	1	1	1	0	2	2	5	5	3	3	1	0	1	1	1	1.4	23	6
30	MON	0		0	0	0	0	0	0	0	4	7	4	4	4	5	5	4	4	5	4	1	1	1	0	2.3	23	8
31	TUE	0		0	0	0					0	1	3	3	3	4	4	4	4	4	3	0	1	1		1.9	18	6
MONTHLY MEAN		1		1	1	1	1	1	1	1	2	3	3	4	5	5	5	5	5	4	3	2	2	1	1	2.5		
NO. OF DAYS		25	1	22	24	24	23	22	17	21	23	21	21	21	22	25	25	25	26	26	26	26	26	26	25		543	
MAX. HRLY MEAN		3	3	3	5	5	4	3	2	4	6	7	9	10	11	11	9	10	10	10	8	5	4	3	3			

TABLE 3-79 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, JUNE 1962

DAY OF		A M												P M												DAILY MEAN	NO OF HR	5-HOUR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI			1	1	1	0	0	1	4	5	5	6	6	6	6	7	6	4	4	2	1	0	0	0	2.9	22	9
2	SAT																											
3	SUN			2	2	2	2	1	1	1	1	1	2	4	6	7	7	7	7	5	5	3	3	2	1	3.3	22	9
4	MON	1			1	0	0	0			0	1	3	3	2	2	2	3	1	0	1	1	2	0	1	1.2	20	5
5	TUE	1		1	0	1	1	0	0	0	0	0	0	1	2				2	3	2	1	0	0	0	0.8	20	3
6	WED	0		0	0	0	0	0	0	1	6	8	5	6	6	6	5	5	4	5	4	3	3	3	1	3.0	23	9
7	THU	2		2	1	1	1			1	3			6	6	6	6	6	6	6	5	3	2	3	3	3.6	19	12
8	FRI	3		3	3	3	0	0	1	0	2	2	2	2	3	4	3	5	5	5	3	3	2	1	1	2.4	23	6
9	SAT	1		1	1	0	1	1	0	0	1	1	2	4	3	4	4	2	3	3	3	2	2	1	1	1.8	23	7
10	SUN	1		1	1	1	0	0	0	1	3	3	3	3	4	3	2	1	2	0	1	0	0	1	2	1.4	23	4
11	MON	2		2	2	1	0	0	0	0	2	0	0	2	2	1	0	1	2	1	0	2	1	1	1	1.0	23	3
12	TUE	2		0	0	0	0	0	0	0	0	1	5	3	4	3	2	2	1	0	0	1	1	1	1	1.1	23	9
13	WED	0		0	1	0	0			0	1	2	2	3	3	4	3	3	3	3	2	1	1	0	0	1.6	21	5
14	THU	0		0	0	0	0	0		2	4	5	5	4	5	5	3	4	4	4	3	1	1	1	1	2.3	22	7
15	FRI	1		1	1	0	0	0		2	4	3	5	7	9	9	8	7	6	5	5	2	1	1	0	3.5	22	13
16	SAT	0		0	0	0	0	0		4	6	7	7	8	7	7	8	8	7	7	7	4	2	1	1	4.1	22	12
17	SUN	1		1	1	0	0	0		0	1	7	7	8	8	8	9	9	8	9	8	7	4	1	1	4.5	22	15
18	MON	1		0	0	0	0	0		0	1	2	6	6	6	7	8	7	5	5	3	3	3	1	3	3.0	22	14
19	TUE	2		1	1	1	1	0	0	0	1		6	5	1	1	3	5	7	7	5	3	2	2	1	2.5	22	8
20	WED	0		0	0	0	0	0		0	1	2	5	5	5	6	5	6	4	5	5	2	1	1	0	2.3	22	10
21	THU	0		4	4	4	3	2	1	0	0	2	5	5	7	7	6	4	3	4	5	3	2	2	3	3.3	23	9
22	FRI	3		2	3	3	2	1		3	2	1	3	4	4	4	6	8	6	4	2	1	1	0	1	2.8	22	9
23	SAT	0		1	0	1	1	0	0	2	1	1	5	5	5	5	5	4	5	4	2	3	2	2	2	2.3	23	6
24	SUN	1		1	1	2	1	0		1	3	5	5	6	7	6	6	5								3.3	15	7
25	MON																											
26	TUE										5	10	9	8	8	7	6	7	3	5	2	1	0	2	4	5.1	15	18
27	WED	4		4	3	2	1	0			3	7	8	9	10	9	9	8	8	5	6	5	2	2	1	4.9	21	11
28	THU	0		0	0	0	0	0	1	2		4	5	6	6	5	6	6	6	5	5	4	3	3	2	3.2	22	8
29	FRI	3		0	1	1	0	0		0	4	5	3	4	3	6	7	6	4	4	6	4	1	1	0	2.9	22	10
30	SAT	0		0	0	0	0			4	7	7	4	7	9	8	8	7	7	4	3	3	2	2	0	3.9	21	13
MONTHLY MEAN		1		1	1	1	0	0		1	2	4	4	5	5	5	5	5	5	4	3	2	2	1	1	2.7		
NO. OF DAYS		25		26	27	27	27	24	13	25	27	26	27	28	28	27	27	27	27	27	27	27	27	27	27		60n	
MAX. HRLY MEAN		4		4	4	4	3	2	1	4	7	10	9	9	10	9	9	9	8	9	8	7	4	3	4			

TABLE 3-82 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, SEPTEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT																											
2	SUN																											
3	MON											3	3	4	5	4	3	4	3	3	3	2	2	1	1	2,8	14	5
4	TUE	1		0	1	1	1	1	1	1	2	2	2	3	3	2	1	3	1	1	1	1	1	0	0	1,2	23	4
5	WED	0		0	2	3	3	1	0	0	0	0	1	1	2	2	2	2	2	1	1	0	0	0	0	1,0	23	3
6	THU	0		1	1	1	1	0	0	1	2	2	2	3	3	3	3	2	2	2	1	1	1	0	0	1,4	23	4
7	FRI	0		0	0	0	0	0	0		0	0	2	5	6	4	2	1	2	1	1	1	0	0	0	1,2	22	7
8	SAT	0		0	0	0	0	0	0	0	0	1	2	2	1	1	1	2	2	2	1	1	1	1	1	0,8	23	5
9	SUN	1		1	1	1	1	1	1	0	0	0	0	0	1	1	0	1	0	0	0	1	1	0	1	0,5	23	2
10	MON	1		0	0	0	0	0	0	0	1	1	1	1	2	1	0	0	0	0	0	0	0	0	0	0,3	23	2
11	TUE	0		0	0	0	0	0	0	0	0	2	3	2	2	1	2	2	2	0	0	0	0	0	0	0,6	23	3
12	WED	0		0	0	0	0	0	0	0	0		4	3	3	5	5	5	4	2	1	0	0	0	0	1,5	22	6
13	THU	0		0	0	0	0	0	0	0	1	2	2	2	2	2	3	4	3	2	1	1	2	3	2	1,4	23	5
14	FRI	2		0	2	2	1	1	0	0	1	1			1	3.	3	2	2	1	1	1	1	2	1	1,4	21	4
15	SAT	2		1	1	1	1	0	0	0	2	2	2	3	4	3	3	3	3	2	1	1	0	0	0	1,5	23	4
16	SUN	0		0	0	0	0	0	0	1	2	3	4	4	4	5	5	4	3	2	3	2	0	1	0	1,9	23	5
17	MON	1			1	1	1	0	0	0	2	2	3	4	5	5	4	4	4	3	2	1	1	1	1	2,2	22	6
18	TUE																											
19	WED											0	0	0	0	2	2	1	1	1	1	1	0	0	0	0,7	14	3
20	THU	0		0	0	0	0	0	0	0	0	0	1	1	2	2	1	1	1	0	0	0	0	0	0	0,4	23	3
21	FRI																											
22	SAT																											
23	SUN	0		0	0	0	0	0	0	0	1	4	5	6	5	6	6							0	0	1,9	17	7
24	MON																											
25	TUE			0	1	0	0	0	0	0	0	1	1	1	1	2	3	3	2	0	0	0	0			0,7	20	3
26	WED																											
27	THU	0		0	0	0	0	0	0			1	1	0	1	1	1	1	1	1	1	0	1	0	0	0,5	21	2
28	FRI																											
29	SAT																											
30	SUN																											
MONTHLY MEAN		0		0	1	1	0	0	0	0	1	1	2	2	3	3	3	2	2	1	1	1	1	0	0	1,2	426	
NO. OF DAYS		17		17	18	18	18	18	18	16	17	19	19	19	20	20	20	19	19	19	19	19	19	19	19			
MAX. HRLY MEAN		2		1	2	3	3	1	1	1	2	4	5	6	6	6	6	5	4	3	3	2	2	3	2			

TABLE 3-81 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, AUGUST 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HRS	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	WED										2	4	6	7	7	7	7	6	4	3	2	0	0	0	0	3.6	15	9
2	THU	0		0								7	7	7	8	8	7	6	6	6	5	3				5.3	13	10
3	FRI			0	0	0	0	0		4			7	7	7	7	6	6	6	6	5	3				3.9	16	10
4	SAT			0	0	0	0	0	1	3	4	4	5	5	5	6	6	6	4	3	3	2	1	1	0	2.6	22	9
5	SUN	0		0	0	0	0	0	0	1	7	10	7	6	6	6	7	7	7	6	5	4	1	2	2	3.7	23	13
6	MON	2			2	1	1	1	0										1	3	2	0	0	0	0	1.0	13	3
7	TUE																											
8	WED			0	0	0	0	0	0	1	3	4	4	4	4	4	4	4	4	4	4	3	1	2	1	2.3	22	7
9	THU	1		1	1	1	1	0	0			2	2	2	2	2	3	3	4	4	3	2	2	2	0	1.8	21	5
10	FRI	0		0	0	0	0	0	0	1	3	3	4	5	5	5	6	5	5	6	4	3	1	0	1	2.4	23	7
11	SAT	1		1	1	1	1	1	0	0	1	4	1	5	7	7	3	2	4	5	4	2	1	1	2	2.3	23	9
12	SUN	1		1	1	2	2	1	1	1	1	2	0	2	5	5	5	6	7	4	3	3	2	2	1	2.5	23	7
13	MON	1		1	1	0	0	0	0	0	2	3	4	5	5	5	5	2	4	5	3	2	3	2	2	2.3	23	5
14	TUE	2		0	2	1	1	0	0	0	0	0	0	0	1	2	2	2	2	3	2	2	0	0	0	1.0	23	3
15	WED	0		0	0	0	0	1	0	1	2	0	0	0	3	1	6	5	6	4	4	0	0	0	0	1.5	23	7
16	THU																											
17	FRI								0	0	0	0	2	4	5	4	4	4	4	4	2	1	0	0	0	2.0	17	6
18	SAT	0		0	0	0	0	0	0	0	0	2	5	6	6	5	7	7	5	5	4	0	0	1	0	2.3	23	11
19	SUN	1		0	0	0	0	0	1	1	1	2	3	4	4	6	5	3	0	0	1	3	3	3	3	1.8	23	9
20	MON	2		1	0	0	0	0	0	2		6	7	7	9	8	9	8	9	7	5	5	5	3	3	4.4	22	13
21	TUE																											
22	WED										5	6	6	7	6	6	6	6	6	6	3	3	3	2	4	4.9	15	7
23	THU	4		3	4	2	2					5	8	9	8	5	6	8	7	7	4	2	1	3	3	4.7	19	10
24	FRI	2		2	3	2	2	0	0	1	3	3	3	4	3	2	3	5	5	5	5	4	4	3	3	3.0	23	6
25	SAT	3		3	3	4	3	3	2	3	4	5		2	3	3	5	2	1	0	0	1	1	2	0	2.4	22	5
26	SUN	0		0	0	1	2	2	2	2	2	1	2	1	2	3	2	3	4	4	3	1	1	1	0	1.7	23	5
27	MON																											
28	TUE																											
29	WED																											
30	THU																											
31	FRI																											
MONTHLY MEAN		1		1	1	1	1	1	0	1	2	3	4	5	5	5	5	5	5	4	3	2	1	1	1	2.7		
NO. OF DAYS		17		19	19	19	19	18	18	17	17	21	21	22	22	22	22	22	23	23	23	23	21	21	21		470	
MAX. HRLY MEAN		4		3	4	4	3	3	2	4	7	10	8	9	9	8	9	8	9	7	5	5	5	3	4			

TABLE 3-84 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, NOVEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	0			0	0	0	0	0	0	0	0	1	1	1	1	0	1	1	0	0	0	0	0	0	0,3	22	2
2	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0,1	23	1
3	SAT	1		0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1					0,3	19	1
4	SUN																											
5	MON	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
6	TUE	0		0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	1	1	1	0,3	23	2
7	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
8	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
9	FRI	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	21	0
10	SAT	0		1	0	0	0	0	0	0	0	0	0	1	1	2	3	2	2	1	0	0	0	1	0	0,6	23	4
11	SUN	0						0	0	0	0	0	0	0	1	2	3	2	0	0	0	1	1	0	0	0,5	19	3
12	MON	0		0	0	0	0	0	0	0	0	0	0	0	0											0,0	13	1
13	TUE																											
14	WED																											
15	THU																											
16	FRI																											
17	SAT																											
18	SUN																											
19	MON																											
20	TUE																											
21	WED	0		1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,1	23	2
22	THU	0		0	0	1	1	2	1	1	1	2	1	1	1	1	1	2	1	1	1	1	0	1	0	0,9	23	2
23	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	1	0,3	23	2
24	SAT	1	0	0	0	0	0	0		0	0	0	0	1	1	1	2	2	1	1	1	1	1	1	0	0,6	23	2
25	SUN																											
26	MON										0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0,5	15	2
27	TUE	0		0	0	1	0	0	0	0	0	0	0	0	0	1	0									0,2	15	1
28	WED																											
29	THU																											
30	FRI												0	1	2	3	2	1	0	0	0	0	0	0	0	0,7	13	3
MONTHLY MEAN		0						0		0	0	0	0	0	1	1	1	1	0	0	0					0,3		
NO. OF DAYS		16	1	13	14	15	15	16	15	16	17	17	18	18	18	17	17	16	16	16	16	15	15	15	15		367	
MAX. HRLY MEAN		1	0	1	1	1	1	2	1	1	1	2	1	1	2	3	3	2	2	1	1	2	2	1	1			

TABLE 3-83 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, OCTOBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON	0		0	0	0	0	0	0	0	0	1	2	3	4	4	2									1.0	15	5
2	TUE																											
3	WED	0		0	0	1	0	0	0	0	1	0	0	1	2	2	3	3	2	1	1	1	1	0	0	0.8	23	3
4	THU	0		0	0	0	0	0	0	0	0	0	1	1	3	3	3	4	2	1	0	1	1	0	0	0.8	23	5
5	FRI	0		0	0	0	0	0	0	0	0	1	3	4	3	2	2	2	2	1	1	1	0	0	0	1.0	23	5
6	SAT																											
7	SUN																											
8	MON	1		0	0	0	0	0	0	0	0	2	2	2	2	2	1	0	1	1	1	1	1	1	1	0.8	23	3
9	TUE																											
10	WED	1	1	1	1	1	1	1	0	1	1				1	3	5	3	3	2	1	1	1	2	3	1.6	21	6
11	THU	4		3	3	1	0	0	0	0	0	1	2	3	5	6	5	5	4	2	0	0	0	1	2	2.0	23	7
12	FRI	2		1	2	2	1	1	0	0	1	2	1	1	1	2	3	5	5	3	2	1	1	1	0	1.6	23	6
13	SAT	1		1	1	0	0	0	0	0	0	0	1	2	2	4	3	3	2	1	1	1	0	0	0	0.9	23	7
14	SUN	1		0	0	0	0	0	1	0	1	2	3	4	3	3	3	4	3	2	1	1	1	1	1	1.5	23	4
15	MON	0		0	1	0	0	0	0	0	0	1	4	2	3	3	2	2	0	0	2	2	2	2	1	1.2	23	5
16	TUE	1		0	3	3	2	0	0	0		2	3	4	3	4	3	3	2	1	1	2	1	2	2	1.9	22	4
17	WED																											
18	THU																											
19	FRI																											
20	SAT			0	0	0	0	0	0	0	0	0	2	3	3	4	3	4	2	2	1	1	0	0	1	1.2	22	5
21	SUN																											
22	MON			0	0	0	0	0				0	1	1	2	3	3	3	2	2	2	3	2	2	2	1.5	19	4
23	TUE	1		0	0	1	1	0	0	0			1	0	0	0	0	0	0	0	0	0	0	0	0	0.3	21	2
24	WED	0		0	0	0	0	0	1			1	0	1	1	1	1	1	1	1	1	0	0	0	0	0.5	21	2
25	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0.2	23	2
26	FRI	0		0	0	0	0	0	0	0	0	1	1		2	2	2	1	1	1	0	1	1	1	0	0.6	22	3
27	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	1	2	2	1	0	0	0	0	0	0	0.3	23	2
28	SUN	1		0	1	0	0	0	0	1	1	1	1	2	3	3	2	1	0	2	2	1	1	1	1	1.0	23	4
29	MON	0		0	0	0	0	0	0	0	1		2	2	1	0	1	1	0	0	0	0	0	0	0	0.4	22	3
30	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
31	WED	0		0	0	0	0	0	0	1	0	0				1	1	1	1	1	0	1	1	1	0	0.4	20	1
MONTHLY MEAN		1		0	0	0	0	0	0	0	0	1	1	2	2	2	2	2	2	1	1	1	1	1	1	0.9		
NO. OF DAYS		21	1	23	23	23	23	23	22	21	19	20	21	20	22	23	23	22	22	22	22	22	22	22	22		504	
MAX. HRLY MEAN		4	1	3	3	3	2	1	1	1	1	2	4	4	5	6	5	5	5	3	2	3	2	2	3			

TABLE 3-86 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, JANUARY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	23	2
2	WED	0		0	0	0	0	0	0	0						0	0	0	0	0	0	0	0	0	0	0.1	18	1
3	THU	0		0	0	0	0	0	0	0	0	0	0	0				0	0	0	0	0	1	0	0	0.2	20	1
4	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0.2	23	1
5	SAT	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
6	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
7	MON	1		0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	1
8	TUE	0		0	0	1	1	0	0	0	1							0	0	0	0	0	0	0	0	0.2	17	1
9	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0					0.1	19	1
10	THU																											
11	FRI	0		0	0	0	0							0	0	0	0	0	0	0	0	0	0	0	0	0.0	17	1
12	SAT																											
13	SUN	0			1	1	1	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0.3	22	1
14	MON																											
15	TUE																											
16	WED	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	0
17	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0.1	23	1
18	FRI	0	0		0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	21	0
19	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
20	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	0.4	23	2
21	MON	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
22	TUE																											
23	WED																											
24	THU																											
25	FRI																											
26	SAT																											
27	SUN																											
28	MON																											
29	TUE																											
30	WED																											
31	THU																											
MONTHLY MEAN		0			0	0	0	0	0	0								0	0	0	0	0	0	0	0	0.1		
NO. OF DAYS		17	1	14	17	17	17	16	16	16	14	13	14	15	14	15	15	17	17	17	17	16	16	16	16		363	
MAX. HRLY MEAN		1	0	0	1	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	1	1			

TABLE 3-85 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, DECEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
2	SUN	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	22	1
3	MON	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	0
4	TUE	0		0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0,1	23	2
5	WED																											
6	THU												0	0	0	0	0	0	0	0	0	0	0	0	0	0,1	13	1
7	FRI	0		0	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0,4	23	2
8	SAT																											
9	SUN																											
10	MON										0	0	0	0	0	1	0	1	1	1	1	1	1	1	1	0,7	15	2
11	TUE	0		0	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0,2	23	2
12	WED	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
13	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	0	0,1	23	1
14	FRI	0			0	0	0	0	0	0	0	0	1	1	2	1	2	1	0	0	0	1	1	1	1	0,5	22	2
15	SAT	1		0	0	1	0	0	0	0	0	1	2	1	1	1	1	0	1	0	0	1	1	0	0	0,5	23	3
16	SUN	0			1	0	0	0	0	1	1	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0,5	22	1
17	MON																											
18	TUE																											
19	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0,1	23	3
20	THU	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	22	1
21	FRI	0		0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0,0	21	1
22	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
23	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
24	MON	0		0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	1	0	0	0,2	23	2
25	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,1	23	1
26	WED	0		0	0	0	0	0	0	0	0	0	0			0	0	1	1	0	0	0	0	0	0	0,2	21	1
27	THU	0		0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0,0	21	1
28	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
29	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0,2	23	2
30	SUN	1		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,0	23	1
31	MON	0			0	1	1	1	0	0	1	1		1	0	0	1	1	1	0	0	0	0	0	0	0,3	21	2
MONTHLY MEAN		0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0,2		
NO. OF DAYS		24	1	18	24	24	24	24	24	24	25	25	25	24	23	25	26	26	26	26	26	26	26	26	26		568	
MAX. HRLY MEAN		1	0	0	1	1	1	1	0	1	1	1	2	1	2	1	2	1	1	1	1	1	1	1	1			

TABLE 3-88 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, MARCH 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
2	SAT	0		0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0.2	23	2
3	SUN	0		0	0	0	0	0	0	0	0	0	0	1	1	2	0	1	1	1	0	0	0	0	0	0.4	23	3
4	MON																											
5	TUE																											
6	WED																											
7	THU	0		0	0	0	0	0	0	0	0	0					0	0	0	0	0	0	0	0	0	0.0	19	0
8	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
9	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
10	SUN	0		1	1	1	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.4	23	2
11	MON	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	1
12	TUE	0		0	0	0	0	0	0	0	0	0	1	1	2	2	2	1	1	1	0	0	0	1	1	0.5	23	3
13	WED	0		0	0	0	0	0	0	0	1		1	1	1	0	0	0	0	0	0	0	0	0	0	0.2	22	2
14	THU	0		1	1	0	0	0	0	0		0	0	0	1	1	1	0	1	0	0	0	0	0	0	0.3	22	2
15	FRI	0		0	0	0	0	0	0	0	1	1	0	2	2	0	1	1	0	0	0	0	0	0	0	0.4	23	3
16	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
17	SUN	0			1	0	0	0	0	0	0	2	2	3	2	3	2	2	3	2	2	1	1	1	0	1.3	22	3
18	MON	1		2	2	2	2	1	0	0	0	1	1	0	0	0	0	2	1	1	1	0	1	1	1	0.8	23	3
19	TUE	2		0	0	0	0	0	0	0	0	0						2	2	3	3	3	2	2	2	1.1	18	4
20	WED	2		3	3	2	2	2	2	0	0	1	1	1	2			1	1	1	1	2	2	2	2	1.5	21	4
21	THU	2		2	2	2	1	1	0	0	0	1	1	1		1	1	1	0	0	1	1	1	1	1	0.8	22	2
22	FRI	1		1	0	0	0	0	0	0	1	1	1	1	2	2	2	2	2	1	1	0	0	0	0	0.7	23	3
23	SAT	0		0	0	0	0	0	0	0	0	1	2	3	3	3	4	4	4	3	1	2	2	1	1	1.4	23	5
24	SUN	1		0	0	0	0	0	0	0	2	3	4	4	4	4	4	4	3	0	0	1	1	0	2	1.6	23	5
25	MON	3		4	3	1	1	0	0	1	2	2	3	2	2	0	1	1								1.7	16	4
26	TUE																											
27	WED																											
28	THU																											
29	FRI																											
30	SAT																											
31	SUN																											
MONTHLY MEAN		1		1	1	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0.6		
NO. OF DAYS		22		21	22	22	22	22	22	22	21	21	20	20	19	19	20	22	21	21	21	21	21	21	21		484	
MAX. HRLY MEAN		3		4	3	2	2	2	2	1	2	3	4	4	4	4	4	4	4	3	3	3	2	2	2			

TABLE 3-87 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis)

CINCINNATI, FEBRUARY 1963

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	FRI																											
2	SAT																											
3	SUN																											
4	MON																											
5	TUE																											
6	WED																											
7	THU																											
8	FRI																											
9	SAT																											
10	SUN																											
11	MON																											
12	TUE																											
13	WED																											
14	THU																											
15	FRI																											
16	SAT																											
17	SUN																											
18	MON																											
19	TUE																											
20	WED																											
21	THU																											
22	FRI																											
23	SAT	0		0	0	0	0	0	0	0	0	0	0	1	1		1	1	0	0	0	0	0	0	0	0.2	22	2
24	SUN	2		1	2	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0.6	23	3
25	MON	0		0	0	0	0	0	0	0	0	0	0	0	0			0	0	1	1	2	1	1	1	0.3	21	2
26	TUE	0		0	0	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0.2	23	2
27	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0.1	23	1
28	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
MONTHLY MEAN NO. OF DAYS MAX. HRLY MEAN		6 2		6 1	6 2	6 2	6 2	6 1	6 1	6 0	6 0	6 0	6 0	6 1	6 1	4 1	5 1	6 1	6 1	6 1	6 1	6 2	6 1	6 1	6 1	135		

TABLE 3-90 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, MAY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	WED	1		0	1	1	0	0	0	1	2	2	2	2	3	4	3	3	3	3	1	1	1	1	0	1.6	23	5
2	THU	0		0	0	0	0	0	0	1	2	2	3	3	3	3	3	3	3	2	2	1	1	2	1	1.5	23	5
3	FRI	1		1	1	1	0	1	1	1	1	1	2	3	3	4	4	4	4	4	3	2	2	2	1	2.0	23	5
4	SAT	1		0	0	0	0	0	1	1	2	4	3	2	3	4	4	4	4	4	2	2	1	1	1	1.9	23	5
5	SUN	1		1	1	1	1	1	0	0	1	3	4	4	4	5	5	5	4	3	2	1	1	1	2	2.2	23	7
6	MON	2			3	1	0	0	0	1	3				5	4	4	4	4	4	3	1	0	0	0	1.9	19	6
7	TUE	0		1	0	0	0	0	0	1	3	4				5	5	4	4	4	3	2	1	0	0	1.9	20	7
8	WED	0		4	4	4	2	0	1	2	2	3	3	4	4	5	4	4	5	5	3	2	2	3	2	3.0	23	6
9	THU	3		2	2	1	1	0	0	2	4	5	5	6	6	6	8	8	7	7	6	6	4	3	3	4.1	23	10
10	FRI																											
11	SAT	2		1	0	0	1	2	1	1	1	1	1	2	2	3	3	3	2	2	3	2	1	1	1	1.6	23	3
12	SUN	1		1	2	1	1	0	1	1	1	1	1	2	2	2	2	2	1	1	1	1	0	0	0	1.1	23	3
13	MON																											
14	TUE																											
15	WED	0			0	0	0	0	0	0	1	1	0	0	0	0	1	1	1	0	0	0	1	0	0	0.3	22	2
16	THU	0		0	0	0	0	0	0	0	1	1			1	0	0	1	1	0	1	1	1	1	0	0.4	21	2
17	FRI	0			0	0	0	0	0	0	1	1	1	0	0	1	1	1	1	1	2	2	1	2	2	0.8	22	2
18	SAT	2		2	1	0	1	0	1	0	1	1	1	2	3	3	3	3	3	3	1	1	1	1	1	1.5	23	4
19	SUN	0		0	0	1	1	0	1	2	2	3	4	3	2	4	4	4	4	3	2	2	3	3	2	2.2	23	5
20	MON	2		2	1	2	1	1	1	1	2	1	2	2	2	1	2	2	3	3	2	1	0	0	0	1.3	23	3
21	TUE	0		0	0	0	0	0	0	0			3	1	2	2	3	2	3	3	2	1	1	1	0	1.1	21	4
22	WED	0		1									3	3	4	3	3	3	2	2	2	1	1	1	0	1.9	15	4
23	THU	0		0	0	0	0	0	0	1	1	1	1	1	3	4	5	4	4	3	4	2	1	1	1	1.6	23	6
24	FRI	1		2	2	1	1	0	0	1				4	2	3	3	3	4	4	4	1	1	1	1	1.9	20	5
25	SAT	1		0	0	0	1	0	0	1	1	2	3	4	4	4	4	4	3	4	3	2	2	2	1	2.0	23	6
26	SUN	1			1	0	2	2	3	3	3	4	5	6	6	5	5	5	5	5	4	4	3	3	3	3.6	22	6
27	MON	2		2	2	3	0	0	0	0	1		0	0	0	2	2	2	3	2	1	2	1	3	1	1.2	22	4
28	TUE	1		1	1	1	0	0	0	0	1				0	2	1	1	0	1	1	1	0	0	1	0.7	20	3
29	WED	1			0	0	0	0	0	3	4	4	4	4	4	4	4	4	3	3	3	2	1	1	1	2.2	22	6
30	THU	1		2	2	1	0	0	1	3	3	4	5	4	5	4	5	5	5	4	4	2	1	0	0	2.5	23	6
31	FRI	0		0	0	0	0	1	1			5	5	5	5	6	6	6	6	6	4	3	2	1	0	2.8	21	6
MONTHLY MEAN		1		1	1	1	1	0	0	1	2	2	3	3	3	3	3	3	3	3	2	2	1	1	1	1.8		
NO. OF DAYS		28		23	27	27	27	27	27	26	24	22	23	24	27	28	28	28	28	28	28	28	28	28	28		612	
MAX. HRLY MEAN		3		4	4	4	2	2	3	3	4	5	5	6	6	6	8	8	7	7	6	6	4	3	3			

TABLE 3-89 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, APRIL 1963

DAY OF		A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR.	MAX.
1	MON																											
2	TUE	1		0	0	0	0	0	0	0	0	1	2	3	2	3	3	2	2				1	1	0	0.9	20	3
3	WED	0		0	0	0	0	0	0	0	1	1	1	2	2	2	2	2	1	1	1	0	2	2	1	0.9	23	2
4	THU																											
5	FRI																											
6	SAT	0	0	0	0	0	0	0	0	0	0	0	3	5	7	6	4	6	7	6			0	1	0	2.0	22	9
7	SUN	0	0	0	0	0	0	0	0	0	0	1	2	3	4	3	4	4	3	2			0	0	0	1.3	22	5
8	MON	2	2	1	2	1	1	0	0	0	0	0				1	1	1	0	0	1	1	1	4	4	1.0	21	5
9	TUE	4		0	0	0	0	0	0	0	0	1	1	2	3	4	3	4	2	2	2	2	1	1	1	1.4	23	5
10	WED	1		1	1	1	0	0	0	0	1	1	1	1	1	2	2	1	1	2	2	1	0	0	0	0.8	23	3
11	THU	0		1	0	0	0	0	0	0	1	1	2	3	3	3	3	4	3	3	2	1	1	1	1	1.3	23	4
12	FRI	1		1	0	0	0	0	0	0			4	5	6	4	4	5	4	4	3	2	1	1	0	2.1	21	7
13	SAT	0		0	0	0	0	0	0	1	1	2	3	3	3	3	3	2	3	3	2	1	1	1	1	1.5	23	4
14	SUN	0		1	1	1	0	0	1	2	2	3	4	4	4	4	4	4	4	2	2	2	1	1	1	2.1	23	5
15	MON	1		0	0	0	0	0	0	0	0	2	3			4	4	4	3	3	2	1	0	0	0	1.4	21	6
16	TUE	0		0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	2	1	1	1	1	2	0.6	23	3
17	WED	2		2	3	2	0	1	2	3	4	5	5	5	5	5	6					0	1	1	1	2.7	19	7
18	THU	0		0	0	0	0	0	0	0	0	1	1	1	1	2	1	2	2	1	0	1	1	0	1	0.6	23	3
19	FRI	0		1	1	1	0	0	0	0	0	0	0	1	1	0	1	1	1	1	1	2	2	2	1	0.7	23	2
20	SAT	2		1	0	0	0	0	0	0	0	0	2	1	1	2	2	2	2	2	1	1	0	0	0	0.8	23	3
21	SUN	0		0	0	0	1	0	1	1	1	2	4	4	4	4	4	4	4	3	1	1	1	1	1	1.8	23	5
22	MON	1		1	2	1	0	0	0	0	0	0			1	0	0	0	0	0	0	1	0	0	1	0.4	21	2
23	TUE	1		2	2	2	1	1	1	1	1	1		1	2	2	1	1	1	1	1	1	0	1	0	1.0	22	2
24	WED	1		1	1	0	0	0	0	0	1	2	2	2	2	2	2	2	2	2	1	1	0	0	0	1.2	23	4
25	THU	0		0	0	0	0	0	0	1	2	3	4	4	5	4	5	4	4	4	3	3	2	1	2	2.2	23	6
26	FRI	1		0	0	0	0	0	0	0	1	4	4	4	5	4	5	3	4	4	2	1	1	0	0	1.8	23	6
27	SAT	0		0	0	0	0	0	0	1	4	4	3	3	3	3	3	3	3	2	2	2	2	2	2	1.9	23	6
28	SUN	1		1	1	1	1	0	0	0	1	1	0	1	3	3	3	2	2	2	1	1	1	2	2	1.3	23	4
29	MON	2		2	1	1	1	1	0	0	1	1				2	1	1	1	0	1	2	1	4	2	1.2	20	6
30	TUE	3		4	4	3	1	1	1	2	1	1	1			2	2	1	0	1	1	1	1	1	1	1.5	21	5
MONTHLY MEAN		1		1	1	1	0	0	0	0	1	1	2	3	3	3	3	2	2	2	1	1	1	1	1	1.3		
NO. OF DAYS		27	3	27	27	27	27	27	27	27	26	26	23	22	23	27	27	26	26	25	23	24	27	27	27		598	
MAX. HRLY MEAN		4	2	4	4	3	1	1	2	3	4	5	5	5	7	6	6	6	7	6	3	3	2	4	4			

TABLE 3-92 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, JULY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED	2		2	3	1						2	4	4	4	4	4	4	4	4	4	2	0	0	0	2.5	18	5
4	THU	0			0	0	0				5	6	6	4	10	9	7	8	6	7	6	4	2	1	1	4.5	19	12
5	FRI	0		0	0	0	0				5	7	8	8	4	1	4	6	5	5	4	1	1	1	1	3.0	20	9
6	SAT	1			0	0	0	0	2	1	1	1	1	1	3	4	4	3	4	3	4	4	3	2	3	2.0	22	6
7	SUN	2		1	1	3	3	2	1	0	0	2	3	2	3	5	5	5	5	5	5	3	1	1	0	2.5	23	6
8	MON	1			0	0				0	0	0	2	2	3	3	3	4	3	3	3	3	1	2	3	1.9	19	5
9	TUE	3		3	3	3	3									3	3	4	3	3	2	0	0	0	2	2.4	15	5
10	WED	4		4							2	2	3	5	5	7	6	5	3	4	3	3	1	0	0	3.3	17	7
11	THU	0		0	0	0					5	6	4	5	6	5	5	5	5	4	4	2	1	0	0	3.0	19	8
12	FRI	0		0	0	0	0					3	6	5	5	3	4	5	4	5	4	2	1	0	0	2.4	19	7
13	SAT																											
14	SUN																											
15	MON																											
16	TUE	0			0	0	0	0		0	1	5	7	3	3	1	2	0	2	2	3	2	1	0	0	1.5	21	9
17	WED	0			0	0	0	0		0	1	2	0		2	3	3	2	1	1	1	0	1	1	0	0.8	20	3
18	THU	1		2	0	0	0	0	0	1	1	2	2	3	3	1	1	3	3	2	0	2	2	1	0	1.2	23	4
19	FRI	1		1	0	0	0	0	0	0	0	1	3	4	6	6	5	6	5	4	4	3	4	3	3	2.5	23	7
20	SAT	3		4	3	3	3	2		1	2	2	3	4	5	5	5	5	4	4	3	3	2	2	1	3.1	22	6
21	SUN	1		1	1	1	1			1	3	3	4	3	3	4	4	4	3	4	3	2	1	1	1	2.3	21	5
22	MON	1		0	0	1	1	0		3	3	6	6	13	10	4	5	7	4	2	4	2	2	1	1	3.4	22	15
23	TUE	1			0	1	0	0		1	8	15	8	6	9	7	3	5	5	7	5	2	1	1	1	4.1	21	17
24	WED	1		2	1	0	1	0		1	2	4	6	6	6	5	6	6	6	7	7	5	3	4	4	3.8	22	8
25	THU	4		4	3	2	1	0				3	2	2	2	1	2	3	3	3	4	2	1	1	2	2.3	20	5
26	FRI	2		3	2	0	0	0	1	2	3	4	3	4	2	2	1	1	0	0	0	0	1	1	1	1.4	23	5
27	SAT	1		0	0	0	0			1	2	2	3	3	3	3	2	2	3	3	1	1	1	0	0	1.4	21	3
28	SUN	0		0	0	0	0	0		1	2	3	4	3	3	4	4	4	3	2	2	2	2	1	0	1.7	22	5
29	MON	0			0	0	0	0	0	0	1		2	1	1	1	0	3	4	3	2	3	3	1	1	1.2	21	5
30	TUE	0			0	0	0				1	1	3	5	4	5	5	5	5	5						2.9	14	6
31	WED																											
MONTHLY MEAN		1		2	1	1	1			1	2	4	4	4	4	4	4	4	4	4	3	2	1	1	1	2.4		
NO. OF DAYS		25		17	24	24	21	14	6	16	21	23	24	23	24	25	25	25	25	25	24	24	24	24	24		507	
MAX. HRLY MEAN		4		4	3	3	3	2	2	3	8	15	8	13	10	9	7	8	8	7	7	5	4	4	4			

TABLE 3-91 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, JUNE 1963

DAY OF		A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR.	MAX.
1	SAT	0		0	1	0	0	0	1	0	1	2	5	6	7	10	9	8	7	5	4	2	1	0	0	3.0	23	12
2	SUN	1		0	0	0	0	0	0	0	1	4	6	8	7	7	6	5	6	5	4	2	1	0	0	2.7	23	10
3	MON	0	0	0	0	0	0	0	0	0	1	2	3	4	3	2	2	2	2	2	1	2	1	0	0	1.1	24	4
4	TUE	0		1	2	1	0	0	0	1					0	0	0	0	0	0	0	0	1	0	1	0.4	19	2
5	WED	1		0	0	0	0	0	0	1			2	2	1	1	3	2	2	1	1	1	1	1	0	1.0	21	4
6	THU	0		0	0	0	0	0	0	0	0	1	3	3	2	1	0	0	0	0	1	0	0	0	0	0.5	23	4
7	FRI	0		0	0	0	0	0	0	0	0	1	3		3	4	3	1	0	1	1	1	1	1	0	0.9	22	5
8	SAT																											
9	SUN																											
10	MON																											
11	TUE																											
12	WED																											
13	THU																											
14	FRI																											
15	SAT																											
16	SUN																											
17	MON	0	0	0	0	0	0	0		0	2	2	4	4	4	4	4	4	4	4	2	1	0	0	0	1.6	23	5
18	TUE	0		0	0	0	0	0				3	5	5	5	5	4	4	4	5	5	2	0	0	0	2.4	20	6
19	WED	0		0	0	0	0	0						2	2	1	2	4	5	5	4	3	1	0	1	1.7	18	6
20	THU	3	3	1	0	0	0	1		0	0	1	1	1	1	0	0	1	1	2	1	1	1	1	1	0.8	23	4
21	FRI																											
22	SAT									4	5	5	6	5	6	5	6	5	6	6	5	3	3	3	1	4.5	16	7
23	SUN	0		0	0	0	0	0		1	3	5	6	6	6	7	7	7	7	7	6	4	2	0	0	3.4	22	8
24	MON	0	0	0	0	0	0	0		1	0								5	6	5	2	1	0	0	1.2	16	7
25	TUE	0		1	0	0	0			4	7	7	7	9	9	9	9	9	8	7	6	3	1	1	0	4.6	21	11
26	WED	1		1	0	0	0	0		2	7	8	6	5	6	6	4	7	7	7	5	2	2	1	0	3.5	22	11
27	THU	0		0	0	0	0	0	0	0	0	0	1	3	2	7	7	5	1	5	5	3	1	1	2	1.8	23	8
28	FRI																											
29	SAT																											
30	SUN																											
MONTHLY MEAN		0		0	0	0	0								4	4	4	4	4	4	3	2	1	0	0	359		
NO. OF DAYS		16	4	16	16	16	16	15	8	15	13	13	14	14	16	16	16	16	17	17	17	17	17	17	17			
MAX. HRLY MEAN		3	3	1	2	1	0	1	1	4	7	8	7	9	9	10	9	9	8	7	6	4	3	3	2			

TABLE 3.94 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, SEPTEMBER 1963

DAY OF		A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR	MAX.
1	SUN	2		2	2	2	2	2	1	3	3	3	3	4	4	4	5	5	5	4	2	1	3	4	4	3.0	23	5
2	MON	4			3	2	3	3	2	3			4	5	6	6	4	4	4	3	2	2	2	2	2	3.2	20	7
3	TUE	2		1	1	2	1	1	1	2	3	4	5	7	4	3	3	3	3	2	2	1	1	1	1	2.3	23	11
4	WED	1		1	1	2	2	2	2	3				0	0	0	0	1	0	0	0	0	0	0	0	0.7	20	3
5	THU	0		0	0	0	0	0	0	0	1	1				3	2	3	3	2	1	0	0	0	1	0.8	20	3
6	FRI	1		1	1	0	1	2	2	1	2	3	5	6	7	8	9	11	9	7	3	3	2	3	3	3.9	23	13
7	SAT	2		2	2	2	1	1	2	3	4	5	6	6	7	7	5	10	9	6	3	2	1	1	1	3.9	23	11
8	SUN	1		1	1	1	1	0	1	2	4	6	6	7	7	8	6	7	7	7	4	3	3	2	2	3.9	23	9
9	MON	1		1	1	1	1	1	1	3	7	17	19	17	10	9	7	6	6	6	3	2	2	2	2	5.4	23	21
10	TUE	1		1	1	1	1	2	4	3	4	9	10	8	9	9	9	9	9	7	5	4	4	4	4	5.2	23	16
11	WED	3		4	4	3	2	3	3	2	4	5	7	8	7	8	7	4	4	4	3	2	3	5	5	4.3	23	12
12	THU	5		5	4	4	4	3	2	3	5	7	9					3	2	2	2	2	1	1	1	3.4	19	12
13	FRI	1		1	1	1	1	1	1	1	1	1	2	3	3	3	3	3	3	3	3	2	2	2	2	1.9	23	4
14	SAT	2		1	1	1	1	1	1	1	1	2	2	3						3	2	2	2	2	2	1.6	18	4
15	SUN	2		2	2	2	2	2	1	1	2	3	5	6	6	6	6	5	5	4	2	2	2	2	3	3.1	23	6
16	MON	3		3	1	2	3	4	5	5	6	7	8	7	7	7	7	7	7	5	3		3	4	4	4.8	22	8
17	TUE	3		3	3	3	3	3	4	4								10	10	8	6	5	6	7	7	5.3	16	11
18	WED	6		5	5	5	5	5	8	7	7	9	17	14	20	20	19	17	14	8	4	5	4	5	5	9.4	23	24
19	THU	4		6	4	2	3	5	6	4	6	8			11	12	12	13	9	7	6	6	5	4	4	6.5	21	14
20	FRI	5		7	5	6	4	3	4	5	6	9	11	11	11	11	12	9	7	7	5	3	3	2	1	6.3	23	13
21	SAT	1		1	1	1	1	1	2	2	3	4	5	6	5	6	6	7	6	4	3	3	4	3	3	3.3	23	8
22	SUN	4		2	2	2	2	2	3	3	4	5	5	6	6	6	7	7	7	5	4	4	5	5	5	4.3	23	7
23	MON	5		4	4	4	3	3	4	4	4				5	5	5	4	4	3	3	3	3	3	3	3.8	20	7
24	TUE	3		3	3	3	2	2	3	3	4	5	5	6	6	6	5	4	3	3	3	2	3	3	3	3.6	23	7
25	WED	5		7	6	5	5	6	4	4	4	5	5	7	8	3	8	8	6	4	5	4	5	5	5	5.6	23	10
26	THU	5		4	4	4	4	6	8	9	9	8	11	9					4	2	1	1	1	1	0	4.8	19	12
27	FRI	1		1	1	1	1	0	0	0	1	2	7	7	7	3	7	8	7	5	4	4	4	4	4	3.6	23	11
28	SAT	3		3	3	3	4	5	4	5	7	6	7	7	8	7	7	6	5	4	4	3	4	4	3	4.8	23	10
29	SUN	3		3	3	3	2	2	2	3	4	4	2	2	2	2	2	2	2	2	2	3	4	5	3	2.7	23	6
30	MON	2		1	1	2	2	2	5									4	2	1	0	0	0	0	0	1.5	15	8
MONTHLY MEAN		3		3	2	2	2	2	3	3	4	6	7	7	7	7	7	6	6	4	3	3	3	3	3	4.0		
NO. OF DAYS		30		29	30	30	30	30	30	29	26	25	24	24	24	25	25	28	29	30	30	29	30	30	30		647	
MAX. HRLY MEAN		6		7	6	6	5	6	8	9	9	17	19	17	20	20	19	17	14	8	6	6	6	7	7			

TABLE 3.93 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, AUGUST 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU																											
2	FRI									2	2	3	6	9	11	16	6	2	1	3	4	4	3	3	2	4.8	16	20
3	SAT	2		1	1	0	0	0	0	0	1	3	4	6	5	5	5	5	5	5	4	4	3	1	0	2.5	23	6
4	SUN	1		1	1	1	1	1	2	4	5	5	6	7	6	6	5	5	5	5	5	3	1	1	0	3.4	23	8
5	MON	0			0	0	0	0			1	1						1	2	2	1	0	0	0	0	0.6	15	5
6	TUE	0		0	0	0	0	0	0	0	0	0	0	0	1	3	3	3	3	3	2	2	1	1	1	1.1	23	6
7	WED	1			0	0	0	0	0	0	1	1	4	4	4	4	4	4	4	3	2	1	0	1	0	1.7	22	8
8	THU	0			0	0	0			0	1	3	4	5	5	4	4	4	4	4	3	1	1	0	0	2.1	20	6
9	FRI	0			0	0	0	0	0	0	0	1	2	3	4	5	5	5	4	4	3	2	1	1	0	1.8	22	6
10	SAT	0		0	1	1	1	1	0	1	2	3	4	5	5	5	6	7	6	5	3	2	2	1	0	2.6	23	7
11	SUN	1		0	0	0	0	0	0	0	2	6	6	7	8	6	6	6	8	8	7	5	2	1	1	3.4	23	10
12	MON	1			1	1	1	0	0	0	0			2	3	4	4	2	1	2	4	3	1	1	2	1.6	20	4
13	TUE	1		3	3	1	1	2	2	2	1		3	3	2	3	3	2	2	2	1	1	1	1	1	1.8	22	3
14	WED	1		0	0	0	0			0	1	1	1	2	2	2	2	2	2	2	1	1	1	0	1	1.1	21	3
15	THU	1		0	0	0	0			1	2	2	2	5	5	6	6	5	4	5	4	3	1	1	1	2.6	21	7
16	FRI	1		1	1	0	0	0			1	3	4	3	3	5	4	1	1	2	2	1	1	1	2	1.8	21	6
17	SAT	1		0	0	1	1	0	1	1	2	3	4	5	6	6	6	6	5	3	3	2	2	1	1	2.5	23	7
18	SUN	1		0	0	0	0	0	0	0	1	1	2	3	4	5	5	4	4	3	2	2	2	2	2	1.9	23	5
19	MON	2		0	0	0	0	0	0	0	0		0	1	1	1	0	0	1	1	0	1	1	1	1	0.4	22	2
20	TUE	1		2	2	1	1	1	0	0	0	1	1	1	1	1	2	2	2	2	2	1	0	0	0	1.0	23	3
21	WED	0		0	0	0	0	0	0		1	3	5	5	10	10	6	6	7	6	3	1	1	1	1	3.0	22	12
22	THU	1		1	1	0	1	0	0	0				7	4	1	6	5	4	5	3	1	1	1	1	2.1	20	8
23	FRI	1		1	0	0	0	0	0	0		4	5	5	5	5	6	6	4	4	3	2	1	1	1	2.5	22	8
24	SAT	1		0	0	0	0	0	1	3	4	2	0	2	1	1	1	3	5	5	3	2	2	2	1	1.6	23	6
25	SUN	1		1	1	1	1	1	1	0	1	1	1	1	1	2	1	1	2	2	2					1.1	19	2
26	MON												3	5	6	7	6	6	5	5	3	2	1	0	0	3.7	13	7
27	TUE	0												7	7	8	8	9	7	6	5	3	4	4	4	5.6	13	14
28	WED	3		4	2	2	2	3	3	3	5	5	6	6	6	6	5	3	2	3	2	3	3	1	2	3.5	23	7
29	THU	1		2	2	2	2	1	1	0			4	5	5	5	5	5	4	4	3	2	1	1	1	2.7	21	8
30	FRI	1		1	1	1	1	1	1	2	4	5	4	4	4	4	5	4	4	3	2	2	1	2	2	2.5	23	9
31	SAT	2		3	2	2	2	1	1	2	3	4	4	3	3	3	3	4	3	3	2	2	2	3	3	2.7	23	5
MONTHLY MEAN		1		1	1	1	0	0	1	1	2	3	3	4	4	5	4	4	4	4	3	2	1	1	1	2.3		
NO. OF DAYS		28		22	27	27	27	24	22	25	25	23	26	29	29	29	29	30	30	30	30	29	29	29	29		628	
MAX. HRLY MEAN		3		4	3	2	2	3	3	4	5	6	6	9	11	16	8	9	8	8	7	5	4	4	4			

TABLE 3-96 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, NOVEMBER 1963

DAY OF		A M												P M														
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR.	5-MIN MAX.
1	FRI	3		1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0.3	23	4
2	SAT	0		0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.3	23	2
3	SUN	0		0	0	0	0	0	0	0	0	1	1	0	0	1	0	1	0	0	0	0	0	0	0	0.2	23	3
4	MON	0		0	0	0	0	0	0	0											0	0	0	0	0	0.0	13	0
5	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
6	WED	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	0
7	THU	0		0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0.0	21	1
8	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1	23	1
9	SAT	0		0	0	0	0	0	0	0	0	0	0	1	2	3	1	0	0	0	0	0	0	0	0	0.3	23	4
10	SUN	0		0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0.1	23	2
11	MON	0			0	0	0	0	0	0	0	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0.4	22	2
12	TUE	0		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	1
13	WED	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
14	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
15	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
16	SAT	0		0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	0	0	0	0	0.2	23	2
17	SUN	0		0	0	0	0	0	0	0	0	1	2	2	2	2	1	1	1	0	0	0	2	0	0	0.7	23	3
18	MON	2		2	2	2	2	1	0	0	0		0	0	0	0	0	0	0							0.7	16	2
19	TUE												0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	13	0
20	WED																											
21	THU																											
22	FRI																											
23	SAT																											
24	SUN	0		0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.0	23	1
25	MON	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
26	TUE																											
27	WED										0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0.1	15	2
28	THU	0		0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0.1	23	1
29	FRI	0		0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	22	1
30	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
MONTHLY MEAN		0		0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0.1		
NO. OF DAYS		23		22	23	23	23	23	23	23	21	21	24	24	23	23	24	24	24	23	24	24	24	24	24		534	
MAX. HRLY MEAN		3		2	2	2	2	1	0	0	0	1	2	2	2	3	1	1	1	0	1	1	2	0	0			

TABLE 3-95 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, OCTOBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	0		0	0	0	0	0	0									2	3	2	1	1	0	0	0	0.6	15	4
2	WED	0		0	0	0	0	0	0	0	1	2	3	5	5	5	4	5	4	3	3	3	3	4	4	2.4	23	6
3	THU	3		2	1	1	0	0	0	0	1					1	1	1	0	0	0	0	0	0	0	0.6	19	3
4	FRI	0		0	0	0	0	0	0	0	0	0	0	0	4	8	9	9	4	1	0	0	0	0	0	1.5	23	12
5	SAT	0		0	0	0	0	0	0	0	0	0	1	2	1	1	2	3	2	0	0	0	0	0	0	0.5	23	4
6	SUN	0		0	0	0	0	0	0	0	0	0	2	5	6	6	5	4	5	2	2	1	1	0	0	1.7	23	7
7	MON	0			0	0	0	0	0	0	1		5	5	6	4	4	4	2	3	2	2	1	2	2	2.0	21	7
8	TUE	0		0	0	0	0	0	0	0	0	0	0	2	2	4	4	3	1	1	0	0	0	0	0	0.7	23	5
9	WED	0		0	0	0	0	0	0	0	1	1	4	3	3	6	9	9	9	4	1	1	1	1	1	2.3	23	12
10	THU	1		1	0	0	0	0	0	0		1	3	4	4	3	3	4	1	1	0	1	1	0	0	1.2	22	7
11	FRI	0		0	0	0	0	0	0	0	0	0	0	1	3	6	7	4	2	1	0	0	0	1	1	1.2	23	8
12	SAT	2		2	2	2	0	0	0	0	1	2	3	4	4	4	4	4	3	1	1	1	1	1	1	1.9	23	5
13	SUN	0		0	0	0	0	0	0	0	0	1	2	3	3	4	4	3	3	1	1	1	0	0	0	1.2	23	5
14	MON	0		0	0	0	0	0	0	0	0		4	6	6	3	1	3	2	1	0	0	0	0	0	1.2	22	7
15	TUE	0		0	0	0	0	0	0	0	0	0	2	6	3	4	4	4	2	1	1	1	0	0	0	1.2	23	8
16	WED	0		0	0	0	0	0	0	0	0	0	2	2	6	2	5	5	3	1	1	0	0	1	1	1.3	23	8
17	THU	0		0	0	0	0	0	0	0	0	0	5	6	5	6	5	2	1	1	1	1	0	0	0	1.5	23	7
18	FRI	0		0	0	0	0	0	0	0	0	0	1	5	4	4	3	3	1	1	1	1	0	0	0	1.0	23	6
19	SAT	0		0	0	0	0	0	0	0	0	0	1	1	1	3	3	3	2	1	0	0	0	0	1	0.7	23	4
20	SUN	0			1	1	1	0	0	0	0	0	3	4	3	2	1	2	1	1	1	1	1	0	1	1.1	22	4
21	MON	0		0	0	0	0	0	0	0	0	0	1	2	3	5	5	4	3	2	1	1	1	0	1	1.2	23	7
22	TUE	0		0	0	0	0	0	0	0	1	1	2	1	4	7	7	6	1	0	1	1	0	0	1	1.4	23	9
23	WED	1		1	1	1	1	0	0	0	0	0	0	3	6	7	7	4	2	1	1	1	1	0	0	1.6	23	8
24	THU	1		0	0	0	0	0	0	0		0	0	0	2	1	1	1	1	1	1	0	0	0	0	0.4	22	4
25	FRI	0		1	0	0	0	0	0	0	1	1	0	1	2	2	4	3	0	1	1	1	1	0	1	0.9	23	4
26	SAT	1		0	0	0	0	0	0	0	0	0	1	1	4	5	5	5	3	1	1	1	2	1	1	1.3	23	6
27	SUN	1		0	0	0	0	0	0	0	0	1	3	4	3	4	3	2	2	2	2	1	0	0	0	1.2	23	5
28	MON	1		0	0	0	0	0	0	0			1	1	2	2	2	2	1	1	0	0	0	0	1	0.8	21	4
29	TUE	1		1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0.6	23	2
30	WED	0		0	0	0	0	0	0	0	0	0	2	2	2	1	2	2	1	0	0	0	0	0	0	0.5	23	3
31	THU	0		0	0	0	0	0	0	0		0	1	2	3	1	0	0	0	0	0	0	0	2	5	0.6	22	5
MONTHLY MEAN		0		0	0	0	0	0	0	0	0	0	2	3	3	4	4	3	2	1	1	1	1	0	1	1.2		
NO. OF DAYS		31		29	31	31	31	31	31	30	26	26	29	29	29	30	30	31	31	31	31	31	31	31	31		692	
MAX. HRLY MEAN		3		2	2	2	1	0	0	0	1	2	5	6	6	8	9	9	9	4	3	3	3	4	5			

TABLE 3-98 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, MAY 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE																											
2	WED																											
3	THU																											
4	FRI																											
5	SAT																											
6	SUN																											
7	MON																											
8	TUE	2	2	2	2	2	3	3	3	3	3	2	2	2	2	1		3	2	2	2	2	2	2	2	2.2	23	4
9	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	24	3
10	THU	2	2	2	2	2	2	2	2	3	3	2	2	2	2	2	3	2	2	2	2	2	3	4	3	2.4	24	6
11	FRI	3	2	3	3	3	4	5	4	5			1	2	1	1	1	2	1	1	2	2	3	2	1	2.3	22	6
12	SAT	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	4	5	6	1.8	24	8
13	SUN	5	4	2	2	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1.6	24	8
14	MON	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	1	2	1.2	24	5
15	TUE	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0	1	1	1	1	1	2	2	3	2	1.1	24	4
16	WED	3	3	2	2	2	2	3	4	4	2	1	1	0	0	0	0	0	0	1	1	2	2	3	3	1.7	24	7
17	THU	3	2	2	2	2	2	4	4	4	4	2	0	0	0	0	0	0	0	0	1	0	2	2	3	1.6	24	6
18	FRI	2	3	2	2	2	2	3	2	1	0	0	0	0	0	0		1	0	1	2	2	2	1	2	1.2	23	4
19	SAT	2	2	2	2	1	1	2	2	1	1	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0.9	24	3
20	SUN	1	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	24	2
21	MON	0	0	0	0	0	0	0	0		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0.7	23	2
22	TUE																											
23	WED																											
24	THU	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	3	3	3	3	3	4	4	5	4	3.0	24	5
25	FRI	4	5	4	4	4	3	4	5	4	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3.5	24	5
26	SAT	4	4	3	5	3	3	3	3	3	3	2	3	3	3	3	3	3	2	3	2	3	3	4	4	3.1	24	6
27	SUN	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	4	4	2.5	24	5
28	MON	4	3	2	2	2	2	2	3	2	2	2	2	2	2			2	2	2	2	3	2	2	2	2.3	22	5
29	TUE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2.1	24	3
30	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
31	THU	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2.1	24	4
MONTHLY MEAN		2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	2	1	2	2	2	2	3	2	1.9		
NO. OF DAYS		22	22	22	22	22	22	22	22	21	21	21	22	22	22	21	19	22	22	22	22	22	22	22	22		521	
MAX. HRLY MEAN		5	5	4	5	4	4	5	5	5	4	3	3	3	3	3	3	3	3	3	3	4	4	5	6			

TABLE 3-97 HOURLY AVERAGES OF TOTAL OXIDANT, pphm (KI analysis) CINCINNATI, DECEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	0		0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0.1	23	1
2	MON	0			0	0	0	0	0	0							0	0	0	0	0	0	0	0	0	0.0	16	0
3	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
4	WED																											
5	THU												0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	13	0
6	FRI	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
7	SAT	0		0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0.3	23	2
8	SUN	1		1	1	1	1	1	1	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	1	0.5	23	2
9	MON	1			0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	22	1
10	TUE	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	1
11	WED	0		0	0	0	0	0	0	0	0	0	0	0	0											0.0	13	1
12	THU																											
13	FRI																											
14	SAT	0		0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1	23	1
15	SUN	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0	23	0
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI																											
21	SAT																											
22	SUN																											
23	MON																											
24	TUE																											
25	WED																											
26	THU																											
27	FRI																											
28	SAT																											
29	SUN																											
30	MON																											
31	TUE																											
MONTHLY MEAN																												
NO. OF DAYS		11		9	11	11	11	11	11	11	10	10	11	11	11	10	11	11	11	11	11	11	11	11	11		248	
MAX. HRLY MEAN		1		1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	0	0	0	1	1	1	1			

TABLE 3-100 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, JULY 1962

DAY OF MONTH	DAY OF WEEK	A M 12	1	2	3	4	5	6	7	8	9	10	11	P M 12	1	2	3	4	5	6	7	8	9	10	11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	SUN	4	3	3	2	2	2	2	2	2	2	2	2	2	1	2	1	1	1	2	2	2	2	2	2	2.0	24	5
2	MON	2	2		2	2	2	2	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	23	3
3	TUE	0	0	0	0	0	0	0	0	0		4	4	4	4	4	4	4	4	4	4	4	4	4	4	2.3	23	5
4	WED	4	4	4	4	4	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	3.4	24	5
5	THU	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
6	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	3.3	24	6
7	SAT	4	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	3.3	24	5
8	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
9	MON	2	2	2	2	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	3.7	24	6
10	TUE	5	5	5	5	5	5	6	5	5	4	4	4	4	4	4	4	4	4	4	4	5	5	5	5	4.6	24	6
11	WED	4	4	6	5	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	4.4	24	6
12	THU	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	4	4.1	24	5
13	FRI	4	4	4	5	5	5	5	5	4	4	4	4	4	4	4		4	4	4	5	5	4	4	4	4.3	23	6
14	SAT	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	4	4.1	24	5
15	SUN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.0	24	5
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI																											
21	SAT																											
22	SUN																											
23	MON																											
24	TUE																											
25	WED																											
26	THU																											
27	FRI																											
28	SAT																											
29	SUN																											
30	MON																											
31	TUE																											
MONTHLY MEAN NO. OF DAYS MAX. HRLY MEAN		15 5	15 5	14 6	15 5	15 5	15 5	15 6	15 5	15 5	14 4	15 4	15 4	15 4	15 4	15 4	14 4	15 4	15 4	15 4	15 5	15 5	15 5	15 5	15 5	357		

TABLE 3-99 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, JUNE 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	2	2	3	3	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2.3	24	4
2	SAT	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
3	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
4	MON	2	2	2	3	3	4	4	3		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	23	5
5	TUE																											
6	WED																											
7	THU																											
8	FRI										2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2.3	15	3
9	SAT	4	3	3	3	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	24	3
10	SUN	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	24	3
11	MON	2	2	2	2	2	2	2	2	2	2	2	2	2	2		3	3	3	3	3	3	3	3	3	2.4	23	4
12	TUE	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	2	3	2	3	3.0	24	6
13	WED	3	3	3	2	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2.4	24	4
14	THU	4	4	3	3	3	3	4	3	3	2	2	2	2	2	2	2	2	2	2	2	3	4	5	4	2.8	24	6
15	FRI	4	4	4	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	4	5	5	2.8	24	6
16	SAT	4	4	5	4	5	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	5	3	3.0	24	6
17	SUN	3	3	4	4	4	4	3	3	2	2	2	2	2	2	2			2	2	2	2	3	4	4	2.8	22	5
18	MON	4	3	4	3	3	3	3	3	3		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.5	23	8
19	TUE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2.1	24	4
20	WED	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	4	2.3	24	5
21	THU	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	24	4
22	FRI	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
23	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
24	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	2	1	2	2	2	2	2	2	2	1.9	24	3
25	MON	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	3	4	4	4	2.4	24	5
26	TUE	4	4	5	5	4	4	4	4	3	3	2	2	2	2	2		2	2	2	2	3	3	2	2	2.9	23	7
27	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	4	2.2	24	5
28	THU	5	5	5	5	5	5	5	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3.0	24	7
29	FRI	2	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	2.3	24	6
30	SAT	3	4	4	4	4	3	4	4	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2.7	24	5
MONTHLY MEAN		3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2.4		
NO. OF DAYS		26	24	26	26	25	26	26	26	25	26	27	27	27	27	26	25	26	27	27	27	27	27	27	27		633	
MAX. HRLY MEAN		5	5	5	5	5	5	5	4	3	3	3	3	3	3	3	4	3	3	3	3	3	4	5	5			

TABLE 3-102 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, OCTOBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE												3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	13	4
3	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	5	5	4	6	6	3.5	24	7
4	THU	6	5	5	5	6	4	5	7	7	4	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4.2	24	8
5	FRI	4	4	4	5	5	5	6	6	6	5	4	3	3	3	3										4.4	15	7
6	SAT												3	3	3	3	3	3	3	3	3	4	3	3	3	3.1	13	5
7	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3.1	24	5
8	MON	3	3	5	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2.6	24	6
9	TUE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	4	5	5	5	2.6	24	8
10	WED	4	4	4	3	4	6	6	5	5	4				2	3	3	3	3	4	4	5	4	4	3	3.8	21	7
11	THU	3	3	3	3	3	3	3	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.6	24	5
12	FRI	2	2	2	2	2	2	2	3	3	2	2	2	2	3	2	2	2	3	4	4	3	3	4	3	2.6	24	6
13	SAT	3	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	2	3	3	3	4	3	2.4	24	5
14	SUN	3	3	3	4	4	4	4	3	3	3	3	2	2	2	2	2	2	2	3	3	4	5	5	3	3.1	24	6
15	MON																											
16	TUE											2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	14	3
17	WED	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	3	4	4	3	4	2.4	24	5
18	THU	5	4	4	3	5	5	5	6	3	2	2	2	2	2	2	2	2	2	4	4	4	4	4	5	3.4	24	7
19	FRI	4	4	4	4	4	4	5	5	4	3	3	2	2	2	2	2	2	3	3	3	3	3	5	5	3.3	24	7
20	SAT	3	4	3	3	3	2	3	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	2.6	24	5
21	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2.1	24	3
22	MON	4	4	3	4	3	3	3	3	3	3	3	3					3	3	3	3	3	3	3	3	3.1	20	5
23	TUE	3	3	3	4	4	4	3	3	3	3	3	3	4	4	4	4	4	3	3	3	4	3	3	3	3.3	24	4
24	WED	3	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	4	4	4	4	5	4	3.4	24	5
25	THU	4	4	4	4	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.2	24	4
26	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	5	4	3.3	24	6
27	SAT	5	5	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3.3	24	6
28	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3.1	24	6
29	MON	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	4	5	5	5	3.3	24	6
30	TUE	5	4	4	3	3	3	4	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.3	24	6
31	WED	3	4	4	4	3	4	3	4	4	3	3	3	3			4	4	4	5	6	5	5	4	4	3.8	22	8
MONTHLY MEAN		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	3	3.1		
NO. OF DAYS		26	26	26	26	26	26	26	26	26	26	26	28	27	27	27	27	28	28	28	28	28	28	28	28		646	
MAX. HRLY MEAN		6	5	5	5	6	6	6	7	7	5	4	3	4	4	4	4	4	4	5	6	5	5	6	6			

TABLE 3-101 HOURLY AVERAGES OF TOTAL HYDROCARBON ppm C atom (flame ionization analysis CINCINNATI, SEPTEMBER 1962

DAY OF		A M												P M													NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7			10	11		OF HR.	MAX.
1	SAT																											
2	SUN																											
3	MON																											
4	TUE																											
5	WED																											
6	THU																											
7	FRI																											
8	SAT																											
9	SUN																											
10	MON																											
11	TUE																											
12	WED																											
13	THU																											
14	FRI	2	2	2	2	2	2	2	3	2	2	2		2	2	2	2	3	3	2	2	2	2	2	2	2.1	23	4
15	SAT	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	23	3
16	SUN	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	4
17	MON	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	2.3	24	5
18	TUE	3	2	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	3	3	3	3	3	4	3	2.7	24	5
19	WED	3	3	3	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2.6	24	5
20	THU	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	3	2	3	2	2.1	24	5
21	FRI																											
22	SAT																											
23	SUN																											
24	MON		3	2	2	2	3	3	4	2			3	2	2	3	3	3	3	3	3	3	3	3	2	2.6	21	5
25	TUE	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	5	4	4	3	3.0	24	5
26	WED	3	3	3	3	3	3	3	3	3	3	3	3	3		3	3	3	3	3	3	3	3	3	3	3.1	23	4
27	THU	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
28	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	5	5	4	4	3.2	24	6
29	SAT	3	3	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	3	3	4	4	4	5	5	3.1	24	7
30	SUN	4	4	5	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	3	4	6	5	6	6	3.4	24	8
MONTHLY MEAN																												
NO. OF DAYS		13	13	14	14	14	14	14	14	14	13	13	13	14	13	14	14	14	14	14	14	14	14	14	14		330	
MAX. HRLY MEAN		4	4	5	4	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	4	6	5	6	6			

TABLE 3-104 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, DECEMBER 1962

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	7	7	7	6	7	8	8	8	8	7	8	9	7	3	3	4	6	17	12	12	11	12	11	9	8.2	24	22
2	SUN	10	10	8	7	9	7	7	8	9	9	10	11	7	9	8	5	7	16	14	10	9	12	12	9	9.2	24	21
3	MON	10	12	10	11	12	10	9	11	16	14	13	12	10	5	4	4	5	6	12	11	13	13	11	8	10.1	24	19
4	TUE	8	9	7	7	8	8	8	9	8	7	6	6	4	4	3	3	4	5	5	5	6	5	5	4	6.0	24	13
5	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
6	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	5
7	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
8	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3.1	24	5
9	SUN	4	4	5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.3	24	6
10	MON	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
11	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
12	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
13	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
14	FRI	3	3	3	3	5	5	6	4	5	5	6	5	6	4	6	4	4	4	4	4	4	4	3	3	4.2	24	12
15	SAT	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	5	5	5	7	8	11	11	4.6	24	14
16	SUN	10	10	10	8	8	6	6	6	4	4	4	4	4	4	4	3	4	4	4	3	4	3	4	4	5.1	24	14
17	MON	3	4	3	4	4	4	4	4	4	4	4	4	4	3	3	4	5	8	10	9	7	10	13	13	5.6	24	17
18	TUE	14	12	12	11	9	9	10	14	10	8	7	5	4	4	3	4	5	6	8	16	12	15	11	8	9.0	24	21
19	WED	8	6	5	5	4	4	4	4	4	4	4	4	3	4	4	4	4	4	5	6	5	4	4	4	4.5	24	11
20	THU	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
21	FRI	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	5	4	5	5	5	5	5	5	3.9	24	6
22	SAT	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.1	24	5
23	SUN	4	4	4	5	4	4	5	4	4	4	4	4	4	4	4	4	4	5	4	4	4	5	5	5	4.3	24	6
24	MON	5	5	5	4	3	3	3	4	4	4		5	5	4	4	4	4	4	4	4	3	3	3	3	3.9	23	6
25	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	4	4	4	5	6	6	7	5	5	3.9	24	9
26	WED	4	4	4	3	3	3	3	3	4	4	5	5	5	4	4	4	5	6	4	4	4	4	4	4	4.0	24	8
27	THU	4	3	5	6	8	6	6	4	6	5	5	6	6	5	5	5	5	5	5	6	8	5	7	7	5.5	24	11
28	FRI	7	7	5	5	3	3	5	6	6	4	4	3	3	3	3	4	4	4	4	3	4	4	4	3	4.3	24	13
29	SAT	3	3	3	5	3	6	3	4	8	12	14	5	4	3	3	3	3	3	3	3	3	3	3	3	4.5	24	23
30	SUN	3	3	4	4	4	5	4	7	5	3	4	4	3	4	4	4	5	3	3	3	3	3	3	3	3.8	24	13
31	MON	3	3	3	3	3	3	3	3	3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3.0	23	4
MONTHLY MEAN		5	5	5	5	5	4	4	5	5	5	5	4	4	4	4	4	4	5	5	5	5	5	5	5	4.6		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	31	30	30	31	31	31	31	31	31	31	31	31	31	31	31		742	
MAX. HRLY MEAN		14	12	12	11	12	10	10	14	16	14	14	12	10	9	8	5	7	17	14	16	13	15	13	13			

TABLE 3-103 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, NOVEMBER 1962

DAY OF MONTH	DAY OF WEEK	AM 12	AM 1	AM 2	AM 3	AM 4	AM 5	AM 6	AM 7	AM 8	AM 9	AM 10	AM 11	PM 12	PM 1	PM 2	PM 3	PM 4	PM 5	PM 6	PM 7	PM 8	PM 9	PM 10	PM 11	DAILY MEAN	NO. OF HR	5-MIN MAX.
1	THU	4	4	5	5	5	4	5	5	5	4	4	3	3	3	3	3	3	3	4	4	4	4	4	5	4.1	24	7
2	FRI	4	4	5	4	3	4	4	4	4	4	3	3	3	3	3	3	4	4	4	4	3	3	3	3	3.6	24	5
3	SAT	3	3	4	4	3	3	4	4	4	3	3	4	4	4	3	4	3	4	4	4	4	3	3	3	3.4	24	7
4	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	3	3	3	3	3	3	3	3.2	24	8
5	MON	3	3	3	3	3	3	3	3	4	4	3	3			3	3	3	3	3	3	3	3	4	3	3.2	22	5
6	TUE	3	3	4	4	4	4	5	6	5	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.5	24	6
7	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	7
8	THU	3	3	3	3	4	3	4	3	3	3	3	3	3	3	2	3	3	3	2	3	2	3	2	2	2.9	24	6
9	FRI	2	2	2	2	2	2	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.8	23	3
10	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2.4	24	5
11	SUN	3	3	3	4	3	3	3	3	3	4	4	3	2	3	2	2	2	2	3	3	2	2	2	2	2.7	24	6
12	MON	2	2	2	2	2	2	3	3	3	3	3	3	3	2											2.5	14	4
13	TUE																											
14	WED																											
15	THU	4	4	4	4	4	4	4	5	5							4	5	6	5	6	6	5	5	5	4.8	18	9
16	FRI	5	4	4	4	4	4	4	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4.6	24	6
17	SAT	5	5	4	4	4	4	4	4	5	5	5	5	5	4	4	4	4	4	5	5	5	4	4	4	4.5	24	7
18	SUN	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.0	24	5
19	MON	4	4	4	4	4	4	4	4	4				4	4	5	4	5	5	5	5	4	4	5	4	4.3	21	6
20	TUE	4	5	5	5	5	4	4	5	5			3	3	3	3	4	3	4	3	4	3	3	3	3	3.8	22	9
21	WED	3	3	3	3	3	3	3	3	4	3	3	3	3	4	3	4	4	5	5	6	6	5	3	3	3.7	24	7
22	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
23	FRI	3	3	3	3	3	3	3	4	4	4	4	3	4	4	4	3	4	3	3	3	3	3	3	3	3.3	24	7
24	SAT	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3.2	24	5
25	SUN	3	3	4	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	4	4	5	5	4	4	3.4	24	6
26	MON	7	5	3	4	5	5	6	6	4	3	4	4	3	3	3	3	3	4	5	4	4	3	3	3	3.9	24	8
27	TUE	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	3	4	4	4	4	6	5	7	3.6	24	13
28	WED	7	8	6	4	5	4	5	5	4	4	3	3	3	3	3	3	4	4	4	3	3	3	3	5	4.0	24	14
29	THU	9	6	5	5	7	6	4	4	4	4	3	3	3	3	3	3	4	4	3	3	3	3	3	4	4.2	24	11
30	FRI	7	5	7	8	7	8	8	9	10	9	9	9	3	3	3	3	4	4	4	4	5	4	10	11	6.4	24	15
MONTHLY MEAN		4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	3	4	4	4	4	4	4	4	4	3.6		
NO. OF DAYS		28	28	28	28	28	28	28	28	27	25	25	26	26	26	26	27	27	27	27	27	27	27	27	27		648	
MAX. HRLY MEAN		9	8	7	8	7	8	8	9	10	9	9	9	5	5	5	4	5	6	5	6	6	6	10	11			

TABLE 3-106 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, FEBRUARY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	4	3	3	3.1	24	6
2	SAT	3	3	3	3	3	3	4	5	8	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3.2	24	9
3	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	3	3	3	3	3	3	3	3	2.4	24	4
4	MON	3	3	3	3	3	3	3	3	3	3	3	3			3	3	4	4	4	4	4	4	4	4	3.4	22	5
5	TUE	4	6	7	5	10	13	11	13	9	8	7	5	4	4	4		5	5	7	10	11	10	15	13	8.0	23	17
6	WED	13	12	12	11	11	11	10	9	11	10	7	5	4	4	5	5	4	5	6	6	6	13	12	7	8.4	24	18
7	THU	4	3	3	3	3	3	4	4	4	3	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3.5	24	5
8	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3.0	24	6
9	SAT	3	3	3	3	3	3	3	3	3	4	3	3	3	3	4	4	4	4	4	4	4	4	4	4	3.5	24	6
10	SUN	4	3	4	4	4	4	4	4	4	4	4	4	4												3.9	13	9
11	MON										3	3	3			3	3	3	3	3	3	3	3	3	3	3.0	13	4
12	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
13	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	5
14	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3.0	24	5
15	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
16	SAT	3	3	4	4	4	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.2	24	5
17	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	4	3	3.2	24	7
18	MON	4	3	4	4	4	3	3	4	4	3		3	3	3	3	3	3	4	4	4	4	3	4	7	3.6	23	14
19	TUE	6	10	11	9	10	11	9	9	11	4	4	3	3	3	2	2	3	3	3	3	3	3	3	3	5.4	24	16
20	WED	3	3	2	2	2	2	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2.3	24	5
21	THU	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
22	FRI	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	2.2	24	3
23	SAT	3	3	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2.3	24	3
24	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2.2	24	4
25	MON	3	2	2	2	2	2	2	2	3	3		3	3	3	3	3	3	3	3	3	2	2	2	2	2.5	23	4
26	TUE	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	3	3	2	2	2.6	24	4
27	WED	2	3	5	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	2	2	3	3	3	3	2.7	24	4
28	THU	3	3	3	3	4	5	7	6	6	6	6	5	4	3	3	3	3	3	3	2	2	2	2	2	3.7	24	9
MONTHLY MEAN		3	4	4	3	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3.4		
NO. OF DAYS		27	27	27	27	27	27	27	27	27	28	26	28	26	25	27	26	27	27	27	27	27	27	27	27		645	
MAX. HRLY MEAN		13	12	12	11	11	13	11	13	11	10	7	5	4	4	5	5	5	5	7	10	11	13	15	13			

TABLE 3-105 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, JANUARY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	3.3	24	9
2	WED	4	3	4	4	4	4	4	4	5	4	4	4	4	4	5	5	5	5	5	5	6	8	8	8	4.8	24	10
3	THU																											
4	FRI																											
5	SAT	6	6	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	6	5	5	6	6	6	5	5.3	24	8
6	SUN	6	6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5.1	24	8
7	MON																											
8	TUE											3	3	3	3	4	3	4	3	3	3	3	3	3	3	3.1	14	4
9	WED	3	3	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	5	5	4	4	4	4	3.8	24	6
10	THU	4	4	4	4	3	4	4	4	4	4	4	4	4	4	5	6	5	4	4	4	5	4	4	4	4.2	24	8
11	FRI	3	4	3	3	3	3	3	4	3	3	3	4	4	4	4	4	4	4	4	4	4	4	3	3	3.6	24	6
12	SAT	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
13	SUN	3	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.8	24	3
14	MON																											
15	TUE	3	3	3	3	3	3	3	3	3	3	3	3			3	3	3	3	4	3	4	4	3	4	3.2	22	6
16	WED	4	3	3	3	3	3	4	5	6	6	4	3	3	3	3	3	3	4	4	4	5	4	4	4	3.8	24	8
17	THU	4	4	3	4	3	4	5	5	7	4		3	3	3		3	4	4	5	10	13	10	8	5	5.1	22	16
18	FRI	5	6	4	4	3	3	3	3	4	4	3	3	3	3	3	3	4	5	8	6	11	11	9	8	5.0	24	15
19	SAT	4	4	3	3	3	3	3	4	3	3	3	3	4	4	3	3	3	4	4	3	4	5	4	4	3.4	24	6
20	SUN	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	24	3
21	MON	2	2	2	2	2	2	2	2	3	2	2	3				2	2	2	3	3	3	3	3	3	2.4	21	4
22	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3				4	5	4	10	10	4	3	3	3.9	21	16
23	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	6
24	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
25	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
26	SAT	3	3	3	3	3	3	3	3	3	3	3	3				3	3	3	3	3	3	3	3	3	3.0	21	4
27	SUN	3	3	3	3	2	3	2	2	2	2	2	3	2	2	3	3	3	3	3	3	3	3	2	2	2.6	24	3
28	MON	3	3	3	3	3	4	4	4	5	4	3	3	3	3	3	3	3			3	3	3	3	3	3.2	22	5
29	TUE	3	4	5	4	4	4	5	4	5	4	3	4	4	3	4	4	4	4		4	3	3	3	3	3.8	23	6
30	WED	3	3	3	3	3	4	3	4	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3.2	24	5
31	THU	3	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	4
MONTHLY MEAN		3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	4	3.6		
NO. OF DAYS		26	26	26	26	26	26	26	26	26	26	26	27	24	23	23	26	27	26	25	27	27	27	27	27		622	
MAX. HRLY MEAN		6	6	6	6	5	5	5	5	7	6	5	5	5	5	5	6	5	6	8	10	13	11	9	8			

TABLE 3-108 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, APRIL 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON	3	4	5	5	6	9	7	9	5	5	4	3	3	3	3	3	3	3	3	4	4	4	4	3	4.3	24	11
2	TUE	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	4
3	WED	4	3	3	3	3	3	3	4	3	3			3	3	3	3	3	3	3		2	2	2	3	3.0	21	5
4	THU	3	2	2	2	2	2	2	3	2	2	2	2	2			2	2	3	3	3	3	3	3	3	2.4	22	3
5	FRI	3	3	3	3	3	4	5	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	7	7	3.6	24	9
6	SAT	7	6	7	9	9	7	6	6	5	4	4	3	3	3	3	3	3	3	4	4	6	7	6	6	5.2	24	9
7	SUN	6	6	6	6	6	6	5	5	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4.1	24	7
8	MON	3	3	3	3	3	3	3	3	3		3	3	3		3	3	4	5	6	7	5	5	4	3	3.7	22	8
9	TUE	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
10	WED	3	3	4	4	4	4	4	4	4	4	4	3	3	4	4	3	4	3	3	3	3	4	4	4	3.6	24	5
11	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3.0	24	4
12	FRI	3	3	3	6	5	5	5	6	5	3	3	3	3	3	3	3	3	3	3	3	3	4	4	5	3.8	24	6
13	SAT	4	6	5	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.4	24	6
14	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	3
15	MON	3	3	3	4	4	4	4	4	4	4	3				3	3	3	3	3	4	5	5	4	4	3.7	21	7
16	TUE	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	4	3	4	4	3	4	4	3.7	24	4
17	WED	3	4	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.2	24	5
18	THU	3	3	4	4	3	4	4	4	4	3	3	3	3	3	3	3	3	4	4	4	4	3	3	3	3.4	24	4
19	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
20	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	6	5	7	5	3.5	24	9
21	SUN	5	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.2	24	5
22	MON	3	3	3	3	3	3	3	3	3	3			3	3	3	3	3	3	3	3	3	4	4	4	3.2	22	5
23	TUE	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
24	WED	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	4
25	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	3
26	FRI	3	3	5	5	5	5	5	6	5	4	4	3	3	3	3	3	3	3	3	3	4	4	4	4	3.9	24	7
27	SAT	6	6	6	6	6	6	6	6	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.1	24	8
28	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	3
29	MON	3	3	3	3	3	3	3	3	4	3	3				3	3	4	4	3	3	3	3	3	3	3.1	21	4
30	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	3
MONTHLY MEAN		4	3	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3.4		
NO. OF DAYS		30	30	30	30	30	30	30	30	30	29	28	26	28	26	29	30	30	30	30	29	30	30	30	30		705	
MAX. HRLY MEAN		7	6	7	9	9	9	7	9	5	5	4	4	4	4	4	3	4	5	6	7	6	7	7	7			

TABLE 3-107 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, MARCH 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	2	2	3	2	2	2	2.6	24	5
2	SAT	2	2	2	2	2	2	2	3	3	3	2	2	2	3	2	2	2	2	3	3	5	6	7	4	2.8	24	9
3	SUN	4	4	3	3	4	3	3	2	2	3	2	2	2	2	2	2	2	3	3	4	8	12	11	11	4.0	24	14
4	MON	11	7	10	12	7	4	8	4	3	3	3	3			3	3	4	4	4	5	4	4	5	4	5.2	22	18
5	TUE	3	3	3	3	3	3	3	4	4	3	3	4	4	4	3	3	4	4	3	3	3	3	3	4	3.4	24	6
6	WED	3	3	4	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	3	3	3	2	3	2.7	24	4
7	THU	3	2	3	2	3	3	3	3	3	3	3	2	3	2	2	2	2	2	2	3	3	3	3	2	2.6	24	4
8	FRI	2	2	2	3	2	2	3	3	3	3	2	3	2	3	3	3	3	3	3	3	4	4	9	6	3.1	24	12
9	SAT	8	8	7	3	3	3	3	3	3	3	3	4	3	3	3	3	3	3	4	3	3	3	3	3	3.8	24	10
10	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
11	MON	3	3	3	3	3	3	3	3	3	3	3				3	3	4	4	3	3	3	4	4	6	3.3	21	8
12	TUE	6	4	5	4	4	6	5	5	7	6	4	4	3	4	3	4	4	4	5	5	5	4	4	3	4.4	24	11
13	WED	3	3	3	4	4	5	4	4	4	3	3	3	3	3	3	3	4	4	3	4	3	3	3	3	3.4	24	7
14	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
15	FRI	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3.2	24	4
16	SAT	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	5	5	4	4	4.2	24	10
17	SUN	4	4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.4	24	6
18	MON	3	3	3	3	3	3	3	4	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3.1	24	5
19	TUE	3	3	3	3	3	3	3	4	4	4					4	4	3	3	3	3	3	3	3	3	3.3	20	6
20	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	3
21	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	3
22	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	5	6	5	7	3.6	24	8
23	SAT	7	7	7	6	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4.5	24	9
24	SUN	4	4	4	4	4	5	4	4	4	4	4	4	3	4	3	3	3	3	3	4	4	4	4	4	3.8	24	9
25	MON	4	3	3	4	4	4	4	4	4	3	3	4	3	4	4	5	4	4	4	3	3	3	3	3	3.6	24	6
26	TUE	3	3	3	3	4	3	4	4	4	3	3	3	3	3	3	3			3	3	3	3	3	3	3.2	22	6
27	WED	3	3	3	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5	4	4	3.8	24	7
28	THU	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3		3	3	4	6	7	9	12	6	4.6	23	17
29	FRI	6	6	6	4	3	3	3	4	4	4	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3.6	24	8
30	SAT	3	3	3	3	3	3	3	3	3	3	4	3	3	3	4	3	4	4	4	4	5	4	4	4	3.5	24	5
31	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3.0	24	4
MONTHLY MEAN		4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3.5		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	31	30	29	28	28	31	30	30	30	31	31	31	31	31	31		732	
MAX. HRLY MEAN		11	8	10	12	7	6	8	5	7	6	4	4	4	4	4	5	4	4	5	6	8	12	12	11			

TABLE 3-110 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, JUNE 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT	7	7	5	5	6	6	7	6	3	3	3	2	2	3	3	2	2	2	2	3	3	6	6	7	4.2	24	8
2	SUN	7	7	5	7	6	8	5	5	3	3	2	2	2	2	2	2	2	2	2	3	3	3	4	5	3.8	24	9
3	MON	5	4	4	4	5	4	4	4	4	3		3	3	3	3	3	4	4	3	3	3	3	3	3	3.6	23	6
4	TUE	3	3	3	3	3	3	4	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3.2	24	5
5	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	3.1	24	5
6	THU	4	4	4	4	4	5	5	4	4	3	3	3	3	3	4	4	4	3	3	3	4	3	3	3	3.6	24	7
7	FRI	4	4	4	4	4	4	4	4	5	4	3	3	3	3	3	3	3	5	4	5	6	6	5	4	4.0	24	7
8	SAT	3	4	4	4	4	4	3	3	3	3	3	3	3	2	2	2	3	3	3	3	4	4	5	4	3.2	24	8
9	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3.0	24	5
10	MON	3	3	3	3	4	4	4	4	4	4			3	3	3	3	3	3	3	3	3	2	3	3	3.1	22	5
11	TUE	3	3	3	2	3	3	3	3	3	3	2	3	3	3	2	3	3	3	3	3	3	3	3	3	2.7	24	5
12	WED	3	2	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2.4	24	4
13	THU	3	3	4	4	4	5	5	4	3			4	4	4	4	4	4	4	5	4	4	4	4	4	3.9	22	6
14	FRI	4	5	4	4	4	4	4	5	4	4	4	4	4	3	4	3	4	4	4	4	4	4	4	4	3.9	24	5
15	SAT	4	4	4	4	4	4	4	4	4	4	3	3	4	4	4	4	4	4	4	4	4	4	5	6	3.9	24	7
16	SUN	6	7	8	7	6	6	5	4	4	4	3	3	3	3	3					1	1	1	1	2	3.9	20	10
17	MON	3	4	4	3	3	3	3	2	2	1		1	1	2	2	2	2	2	2	3	3	4	5	6	2.8	23	7
18	TUE																											
19	WED										3	3	2	2	2	2	2	3	3	2	3	3	3	4	4	2.7	15	4
20	THU	2	3	3	3	2	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.2	24	4
21	FRI	2	2	2	1	1	1	1	2	1	1	1	1	2	2	2	2	2	2	2	2	2	3	4	5	1.9	24	6
22	SAT	5	5	6	6	5	5	5	4	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	3	2.4	24	6
23	SUN	4	1	4	4	4	4	4	2	1	1	0	0	0	0	0	0	0	0	0	1	1	3	4	5	1.8	24	5
24	MON	4	3	4	4	4	4	5	3	1			5	5	4	4	4	4	4	4	4	5	8	9	9	4.5	22	11
25	TUE	11	10	10	10	12	12	13	13	11	3	3	3	3	3	3	3	3	3	3	4	5	7	7	7	6.6	24	15
26	WED	7	7	6	6	9	9	8	9	9	5	3	3	3	3	3	3	3	3	3	3	4	4	6	6	5.2	24	11
27	THU	6	6	14	13	6	6	7	6	5	5	4	3	3	3	3	3	3	4	4	3	4	5	5	4	5.1	24	25
28	FRI	5	5	5	4	4	4	4	4	4	5	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3.7	24	7
29	SAT	3	3	3	3	3	3	3	3	3	3	3	2	2	2	3	2	3	3	3	3	3	3	3	4	3.0	24	6
30	SUN	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	4	4	3	3	3	5	3	6	3.2	24	8
MONTHLY MEAN		4	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3.5		
NO. OF DAYS		28	28	28	28	28	28	28	28	28	27	24	28	29	29	29	28	28	28	28	29	29	29	29	29		675	
MAX. HRLY MEAN		11	10	14	13	12	12	13	13	11	5	4	5	5	4	4	4	4	5	5	5	6	8	9	9			

TABLE 3-109 HOURLY AVERAGES OF TOTAL HYDROCARBON. ppm C atom (flame ionization analysis) CINCINNATI, MAY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	5	3.2	24	5
2	THU	5	6	5	5	5	5	6	4	4	3	3	3	3	3	3	3	3	3	3	3	4	5	7	7	4.2	24	8
3	FRI	6	6	6	5	5	4	4	4	5	4	4	3	3	3	3	3	3	3	3	3	4	5	6	6	4.2	24	7
4	SAT	6	6	6	6	6	6	5	5	4	4	4	3	3	3	3	3	3	3	3	4	5	4	5	5	4.3	24	7
5	SUN	5	5	4	4	4	4	6	6	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.6	24	8
6	MON	3	3	3	3	3	3	3	3	3			2	2	2	2	3	3	3	3	3	3	3	3	3	2.8	22	3
7	TUE	3	3	3	5	5	6	6	6	5	3	3	3	3	3	3	3	3	3	3	4	4	5	5	5	4.0	24	8
8	WED	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	3.3	24	6
9	THU	3	3	5	4	3	4	3	4	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3.1	24	6
10	FRI	3	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	2	3	3	2	2	2.7	24	3
11	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
12	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	24	3
13	MON	2	3	2	2	3	3	3	3	4	4		3	3	3	3	3	3	4	3	3	3	3	3	3	3.0	23	5
14	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	5	5	3	3	3.2	24	7
15	WED	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	4	3	3	3	4	3	4	4	3	3.2	24	10
16	THU	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	5	9	8	7	3.8	24	10
17	FRI	4	4	4	3	3	3	3	3	4	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3.3	24	5
18	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	5	4	3	3.2	24	6
19	SUN	3	3	4	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
20	MON	3	3	3	3	3	3	3	3	3			3	2	2	2	3	3	3	3	3	4	5	5	5	3.2	22	6
21	TUE	4	5	6	5	6	5	4	4	3	2	2	2	2	3	2	3	2	3	2	3	3	3	3	3	3.4	24	7
22	WED	3	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
23	THU	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	5
24	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	5	6	3.3	24	7
25	SAT	6	6	4	4	3	3	2	3	3	3	2	2	2	2	2	2	2	3	3	3	3	3	2	3	3.0	24	8
26	SUN	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2.2	24	3
27	MON	2	2	2	2	2	2	3	3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	2.8	23	4
28	TUE	3	3	3	3	3	3	3	4	3	3	2	3	3	3	3	2	3	3	3	3	3	3	3	3	2.9	24	5
29	WED	3	3	3	3	3	3	3	3	3	2	3	2	2	2	3	2	3	3	2	3	3	3	3	4	2.9	24	5
30	THU	3	3	3	3	3	3	2	2	2	3	2	3	2	2	2	2	2	2	3	3	3	3	3	3	2.6	24	5
31	FRI	4	5	4	4	4	4	3	3	3	2	2	2	2	2			2	2	2	3	3	4	6	7	3.2	24	8
MONTHLY MEAN		3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3.2		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	29	27	31	31	31	31	31	31	31	31	31	31	31	31	31		738	
MAX. HRLY MEAN		6	6	6	6	6	6	6	6	5	4	4	4	4	3	3	4	3	4	3	4	5	9	8	7			

TABLE 3-112 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, AUGUST 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-HOUR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU	2	2	2	2	2	2	2	2	2	2	2	1	2	2	1	2	1	1	1	2	2	2	2	2	1.8	24	3
2	FRI	2	3	3	2	3	3	3	3	4	2	2	2	1	1	2	1	1	1	1	1	2	2	2	2	2.1	24	5
3	SAT	2	2	2	2	2	2	2	2	2	2	1	1	1	2	2	1	1	1	1	2	2	2	2	2	1.6	24	4
4	SUN	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1.1	24	2
5	MON	2	1	2	2	2	2	2	2	1	1		3	3	2	2	2	2	2	2	2	2	2	2	2	2.0	23	3
6	TUE	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	24	3
7	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
8	THU	2	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	4	4	2.5	24	5
9	FRI	3	4	4	4	4	4	4	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.6	24	7
10	SAT	3	3	3	3	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	2	5	5	2.5	24	9
11	SUN	5	5	6	5	5	5	5	5	5	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3.2	24	7
12	MON	2	2	2	2	3	3	2	2	2	2			2	2	2	2	2	2	2	2	2	2	2	2	2.2	22	4
13	TUE	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	4
14	WED	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2.0	24	3
15	THU	3	3	2	2	3	3	4	4	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	2.5	24	5
16	FPI	4	5	4	5	5	5	5	6	4	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3.1	24	7
17	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.1	24	3
18	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
19	MON																											
20	TUE											2	2	3	2	3	3	3	3	2	2	3	5	6	5	3.1	14	6
21	WED	6	5	5	6	5	6	6	6	6	6	4	2	2	2	2	2	2	2	2	3	4	5	5	5	4.1	24	7
22	THU	6	7	6	6	6	6	8	9	9	7	3	3	2	2	2	2	3	3	3	3	5	5	5	5	4.8	24	10
23	FRI	5	5	5	5	5	5	6	8	6	4	3	3	2	2	3	2	3	3	3	3	4	5	5	5	4.3	24	8
24	SAT	5	5	5	6	6	6	7	7	4	3	3	3	3	3	3	3	3	3	3	3	5	4	3	3	4.1	24	8
25	SUN	3	3	3	2	2	2	2	2	3	2	2	3	3	3	3	2	3	3	3	3	3	3	3	3	2.7	24	4
26	MON	3	3	3	2	2	3	3	3	3	3			3	3	3	3	3	3	3	3	3	5	6	6	3.3	22	6
27	TUE	5	6	5	5	4	5	5	4	4	5	4	3	3	3	3	3	3	3	3	3	3	3	5	6	4.0	24	7
28	WED	6	6	7	6	6	6	6	5	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4.1	24	9
29	THU	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	3.2	24	5
30	FRI	4	4	4	4	3	4	6	4	3	3	3	3	2	3	3	3	3	3	3	3	4	3	4	4	3.4	24	6
31	SAT	5	5	5	5	4	4	3	3	3	3	2	2	2	3	2	2	3	3	3	3	3	4	5	5	3.4	24	6
MONTHLY MEAN		3	3	3	3	3	3	4	4	3	3	2	2	2	2	2	2	2	2	2	2	3	3	3	3	2.8		
NO. OF DAYS		29	29	29	29	29	29	29	29	29	29	27	28	30	30	30	30	30	30	30	30	30	30	30	30		705	
MAX. HRLY MEAN		6	7	7	6	6	6	8	9	9	7	4	3	3	3	3	3	3	3	3	3	5	5	6	6			

TABLE 3-111 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, JULY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON	6	5	5	6	7	6	4	4	4				3	3	3	3	4	3	3	3	4	4	4	5	4.3	21	13
2	TUE	4	3	3	3	3	3	3	3	3	2	2	2	2	2			3	3	2	2	2	3	2	3	2.7	22	5
3	WED	3	2	3	2	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2.4	24	4
4	THU	3	3	4	5	5	5	5	4		2	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3.1	23	6
5	FRI	4	4	4	4	4	5	6	5	4	5	3	3	3	3	3	3	3	3	3	3	4	4	4	5	3.7	24	6
6	SAT	5	5	6	6	6	5	4	3	4	4	4	3	3	3	2	2	3	2	3	3	3	3	3	2	3.5	24	7
7	SUN	3	3	3	3	2	2	2	2	3	2	3	2	2	2	2	2	2	2	2	3	3	4	4	4	2.7	24	5
8	MON	3	2	2	2	2	2	2	2	2	2		2	2	2	3	3	3	3	3	3	3	3	3	3	2.5	23	4
9	TUE	3	3	3	3	3	2	3	3	3	2	2	2	2	2	2	2	2	2	2	2	3	3	2	2	2.5	24	4
10	WED	2	2	2	3	2	3	4	3	3	2	2	2	2	2	2	2	2	2	2	2	3	4	5	5	2.7	24	6
11	THU	4	4	5	5	5	5	5	5	5	4	3	3	3	3	3	3	3	3	3	3	4	4	5	6	4.0	24	7
12	FRI	5	5	5	5	5	6	5	5	4	3	3	3	2	3	3	3	3	3	3	3	4	4	4	6	3.9	24	7
13	SAT	4	4	4	5	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3.2	24	7
14	SUN	2	2	2	3	2	2	3	3	3	3	2	3	3	2	2	2	3	2	3	3	3	3	3	3	2.6	24	4
15	MON	3	3	3	3	3	3	3	3	3	3			3	3	3	3	3	3	3	3	4	4	6	5	3.4	22	7
16	TUE	4	4	3	4	4	4	5	4	3	4	3	3	3	3	2	3	3	3	2	3	3	5	4	4	3.4	24	7
17	WED	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.8	24	4
18	THU	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	5
19	FRI	3	3	3	2	2	2	3	3	3	3	3	3	3	2	2	2	2	2	2	2	3	2	2	3	2.5	24	5
20	SAT	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2.2	24	4
21	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	4	3	3	2.2	24	5
22	MON	3	3	3	3	3	3	4	3	3	2			3	3	3	4	4	4	4	4	4	4	4	4	3.4	22	6
23	TUE	4	4	4	5	4	5	5	6	5	5	4	3	2	3	2	3	3	4	3	3	3	4	4	5	3.9	24	8
24	WED	4	3	3	3	4	3	4	3	3	3	3	3	2	3	2	2	3								3.0	17	5
25	THU																											
26	FRI									3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3.0	16	5
27	SAT	3	3	3	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	4	3.2	24	5
28	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	2.9	24	5
29	MON	3	3	3	3	3	3	3	3	3	3		2	3		3	3	3	4	4						3.0	17	5
30	TUE																											
31	WED																											
MONTHLY MEAN		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3.0		
NO. OF DAYS		27	27	27	27	27	27	27	27	27	27	23	25	28	27	27	27	28	27	27	26	26	26	26	26		639	
MAX. HRLY MEAN		6	5	6	6	7	6	6	6	5	5	4	3	3	3	3	4	4	4	4	4	4	5	6	6			

TABLE 3-114 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, OCTOBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	5	6	5	6	5	6	5	6	5	3	2	2	2	2	2	2	3	3	3	3	4	4	3	3	3.8	24	8
2	WED	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.4	24	4
3	THU	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	3	2.1	24	4
4	FRI	3	2	2	2	2	3	3	3	2	2	2	2	2	2	2	2	3	2	3	5	7	8	9	9	3.4	24	10
5	SAT	8	7	7	7	7	7	7	7	7	3	2	2	2	2	2	2	2	2	2	7	7	7	7	5	4.9	24	9
6	SUN	5	5	5	5	5	5	4	3		2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	3.1	23	8
7	MON	4	3	4	3	2	2	3	3	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2.4	23	7
8	TUE	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	5	2.3	24	6
9	WED	6	5	4	4	5	5	5	6	8	7	2	2	2	2	2	2	2	2	2	5	7	6	6	5	4.2	24	9
10	THU	5	5	5	5	5	6	6	8	8	4	3	2	2	2	2	2	2	2	3	3	2	3	2	3	3.6	24	10
11	FRI	2	2	2	2	3	2	2	3	2	2	2	2	2	2	2	2	3	2	4	3	4	3	2	2	2.4	24	7
12	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.0	24	3
13	SUN	2	2	2	2	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	5	5	6	2.5	24	8
14	MON	6	6	6	5	6	5	6	8	7	7		2	2	2	2	2	2	2	4	8	8	6	7	9	5.1	23	10
15	TUE	5	6	5	5	5	6	9	7	6	3	3	2	2	2	2	2	2	3	5	6	8	7	8	7	4.9	24	10
16	WED	7	5	5	5	5	5	6	8	5	4	4	3	2	2	2	2	3	4	6	7	6	7	7	7	4.9	24	10
17	THU	7	6	6	6	6	6	7	7	9	8	4	4	3	3	2	3	3	5	7	8	8	7	8	7	5.8	24	10
18	FRI	7	6	6	7	6	6	8	9	8	5	4	4	3	3	3	3	4	6	9	10	11	10	10	8	6.5	24	13
19	SAT	7	8	9	8	6	5	4		5	4	4	4	2	2	3	3	3	4	5	7	11	9	6	4	5.3	23	14
20	SUN	3	3	3	3	4	3	4	4	4	4	4	4	3	3	3	4	5	6	7	10	11	10	9	8	5.0	24	13
21	MON	8	7	7	6	6	6	8	8	4	5		4	4	3	3	3	4	4	4	6	7	7	7	8	5.5	23	10
22	TUE	9	9	8	9	9	7	8	9	10	9	5	4	3	3	3	3	3	4	5	10	12	10	10	8	7.1	24	14
23	WED	7	7	6	6	7	7	9	9	6	4	3	3	3	3	3	3	4	5	5	10	11	10	11	9	6.3	24	13
24	THU	9	8	6	6	8	7	7	7	6	4	4	3	3	3	3	3	5	5	5	5	6	8	10	8	5.7	24	12
25	FRI	7	8	7	7	7	8	7	8	8	7	6	3	3	3	3	2	3	5	5	6	6	8	10	11	6.1	24	13
26	SAT	9	8	8	7	6	6	7	7	6	5	4	3	3	3	3	3	3	4	5	5	5	6	9	11	5.6	24	12
27	SUN	7	6	5	6	7	6	6	6	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	4.2	24	9
28	MON	3	3	3	3	3	3	3	4	3	3		2	3	3	3	3	3	3	3	3	3	3	3	3	2.9	23	4
29	TUE	2	3	2	2	2	3	3	4	3	3	3	2	2	2	3	3	3	3	3						2.6	19	5
30	WED										5	4	3	3	3	3	3	3	4	4	4	4	6	5	5	4.1	15	8
31	THU	4	4	4	4	3	3	3	4	4	4		4	4	4	3	3	4	4	5	5	6	7	5	3	4.0	23	9
MONTHLY MEAN		5	5	5	5	5	5	5	5	5	4	3	3	2	2	2	3	3	3	4	5	6	6	6	6	4.2		
NO. OF DAYS		30	30	30	30	30	30	30	29	29	31	26	31	31	31	31	31	31	31	31	30	30	30	30	30		723	
MAX. HRLY MEAN		9	9	9	9	9	8	9	9	10	9	6	4	4	4	3	4	5	6	9	10	12	10	11	11			

TABLE 3-113 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, SEPTEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	5	5	5	5	5	5	5	5	4	3	2	2	2	2	2	2	2	2	2	3	3	5	6	6	3,6	24	7
2	MON	6	5	5	5	5	6	5	4	4	3		3	3	2	3	2	3	3	3	3	3	3	3	3	3,7	23	7
3	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2,9	24	6
4	WED	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2,9	24	5
5	THU	3	4	3	3	3	3	3	4	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3	2,9	24	4
6	FRI	3	4	4	4	3	4	4	4	3	3	2	3	2	2	2	3	2	3	3	3	5	5	5	6	3,5	24	9
7	SAT	5	5	5	5	5	4	6	5	5	3	3	3	3	2	2	2	2	3	3	3	4	5	5	6	4,0	24	7
8	SUN	5	4	4	4	4	4	3	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	4	4	3,2	24	6
9	MON	5	5	5	4	4	5	6	6	8	6		4	3	3	3	3	3	2	3	3	5	6	6	5	4,4	23	10
10	TUE	5	5	5	4	4	4	5	6	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3,0	24	6
11	WED	2	2	2	2	2	2	4	3	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2,2	24	5
12	THU	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2,0	24	3
13	FRI	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2,0	24	3
14	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2,0	24	2
15	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	4	2,1	24	5
16	MON	5	5	5	5	4	5	6	6	5	2	2	2	2	2	2	2	2	2	2	2	3	4	4	5	3,5	24	7
17	TUE	5	5	5	5	5	4	4	4	3	3							3	3	3	3	5	7	7	7	4,3	18	8
18	WED	7	7	6	6	6	6	6	7	5	4	4	4	3				3	3	3	4	6	6	6	5	5,1	21	8
19	THU	6	5	7	6	5	5	5	6	4	4	3	3	2	2	2	2	2	3	3	3	3	3	3	3	3,8	24	8
20	FRI	3	3	3	3	3					3	2	2	3	2	3	3	3	3	3	4	3	2	3	2	2,7	20	6
21	SAT	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	2	2	2	2	2	2,1	24	3
22	SUN	2	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		2,1	23	3
23	MON	2	2	2	2	2	2	2	2	2		3	3	3	3	3	3	3	3	3	3	3	3	3	3	2,6	23	3
24	TUE	3	3	3	3	3	3	3	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3,1	24	4
25	WED	4	5	5	5	4	4	5	3	2	2	2	1	1	1	1	1	1	1	2	3	3	4	4	4	2,8	24	6
26	THU	4	3	4	4	3	4	5	5	6	6	2	1	1	1	1	1	1	2	2	4	5	5	6	4	3,4	24	7
27	FRI	6	6	5	5	5	5	5	7	7	7						2	2	2	3	4	3	4	4	4	4,4	19	8
28	SAT	3	3	3	3	4	5	4	3	3	2	3	2	2	2	2	2	2	2	2	2	2	2	2	2	2,6	24	7
29	SUN	2	2	2	2	3	3	2	2	2	1	1	1	1	1	1	1	1	1	1	1	2	3	3	2	1,7	24	4
30	MON	3	3	4	3	4	4	4	5	5	4			3	2	2	2	3	3	3	5	6	6	6	6	3,9	22	7
MONTHLY MEAN		4	4	4	4	3	4	4	4	3	3	2	2	2	2	2	2	2	2	3	3	3	3	4	4	3,0		
NO. OF DAYS		30	30	30	30	30	29	29	29	29	29	25	27	28	27	27	28	30	30	30	30	30	30	30	29		696	
MAX. HRLY MEAN		7	7	7	6	6	6	6	7	8	7	4	4	3	3	3	3	3	3	3	5	6	7	7	7			

TABLE 3-116 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, DECEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3	3	2	2	2	3	2.4	24	4
2	MON	2	2	2	2	2	2	3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.8	23	4
3	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.9	24	4
4	WED	3	3	2	2	2	2	2	3	3			3	3	2	3	3	3	3	3	3	2	3	3	2	2.6	22	4
5	THU	3	3	3	2	3	2	3	3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	2.9	23	4
6	FRI	3	3	3	3	3	3	3	4		3	3	3	3	3	3	3	4	4	4	4	4	4	4	3	3.4	23	5
7	SAT	4	4	4	4	4	3	4	4	4	4	3	3	3	4	3	4	4	4	4	4	4	3	3	3	3.7	24	6
8	SUN	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	4
9	MON	3	3	3	3	3	3	3	3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	23	4
10	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	5
11	WED	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3										2.9	15	3
12	THU											3	3	3	3	3	3	3	3	3	3	2	2	2		2.8	13	4
13	FRI										2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.8	15	4
14	SAT																											
15	SUN												3	3	3	3	2	3	3	3	3	3	3	3	3	2.7	13	4
16	MON	3	3	3	3	3	3	3	3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	2.9	23	4
17	TUE	3	3	3	3	4	4	4	5	4			3	2	2	3	3	3	3	3	3	3	3	2	2	3.1	22	6
18	WED	3	3	3	2	2	2	2	2	2		2	2	3	2	2	3	3	3	3	3	2	2	2	2	2.4	23	4
19	THU	3	2	2	2	2	2	3	3	3				3	3	3	3	3	3	3	3	3	3	3	3	2.7	21	4
20	FRI	3	3	3	3	3	3	3	3	3			3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	22	4
21	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	5	3	3	3.2	24	5
22	SUN	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	3	3	3	3	3	3	3	3	2.9	24	4
23	MON	3	3	3	3	3	3	3	3	3	3		3	3	3							4	3	4	3	3.1	17	6
24	TUE	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.0	24	5
25	WED																											
26	THU												3	3	3	3	3	3	4	4	4	4	3	3	3	3.3	13	5
27	FRI	3	3	3	3	3						3	3	3	3	3	3	3	3	3	3	2	3	2	3	2.8	19	3
28	SAT	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	2.9	24	5
29	SUN	4	4	3	3	3	3	3	3	3	3	3	3	2	3	3	3	2	3	3	2	2	2	2	2	2.8	24	5
30	MON	2	2	2	2	3	3	3	3	4			4	3	3	3	3	3	3	3	3	3	3	3	3	3.0	22	6
31	TUE	3	3	3	3	3	3	3	3	4	4	4	4	3	3	3	4	4	4	4	4	4	4	4	4	3.5	24	4
MONTHLY MEAN		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2.9		
NO. OF DAYS		25	25	25	25	25	24	24	24	23	18	18	28	29	29	28	27	27	27	27	27	28	28	28	27		616	
MAX. HRLY MEAN		4	4	4	4	4	4	4	5	4	4	4	4	3	4	3	4	4	4	4	4	4	5	4	4			

TABLE 3-115 HOURLY AVERAGES OF TOTAL HYDROCARBON, ppm C atom (flame ionization analysis) CINCINNATI, NOVEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-HOUR MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	4
2	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	3	3.1	24	6
3	SUN																											
4	MON										3			3	3	3	3	3	4	3	3	3	3	3	3	3.2	13	5
5	TUE	3	3	3	3	3	3	3	3	3	4	3	4	3	4	4	4	3	4	4	3	3	3	3	4	3.3	24	5
6	WED	4	4	4	4	4	3	5	5	4	4	4	4	4	4	3	4	4	4	3	3	3	3	3	3	3.6	24	8
7	THU	3	3	3	3	3	3	3	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	3	3	3.3	24	5
8	FRI	3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	4	5	5	7				3.6	21	8
9	SAT																											
10	SUN											3	3	3	4	3	4	3	3	5	6	6	5	4	3	4.1	14	7
11	MON	3	4	4	5	4	4	4	5	4		3	3	3	3	2	3	3	3	3	3	3	3	3	2	3.3	23	6
12	TUE	2	3	2	2	2	2	3	3	3	3	2	2	2	2	3	3	3	3	3	3	3	3	3	3	2.7	24	5
13	WED	3	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	3	3	2.8	24	5
14	THU	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	4	4	4	4	4	3	4	4	3.3	24	5
15	FRI	4	3	3	3	4	4	4	5	5	4	3	3	3	3	3	3	4	4	4	4	4	4	4	4	3.7	24	7
16	SAT	3	4	3	3	3	3	3	3	3	4	4	4	4	3	3	4	4	5	4	4	4	4	4	4	3.7	24	6
17	SUN	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	5
18	MON	3	3	3	3	3	3	3	4	4	3	3	3	3	3	4	4	3	[illegible]	5	5	5	5	6	5	3.8	24	7
19	TUE	6	6	5	5	5	6	8	10	9	6	5	5	4	4	5	5	6	7	6	5	4	4	3	3	5.5	24	11
20	WED	3	3	3	3	3	4	5	5	5	5	5	4	4	4	4	4	4	4	3	4	3	4	4	4	3.8	24	7
21	THU	3	3	3	3	4	4	4	5	4	4	3	4	4	4	4	4	4	4	4	4	4	4	4	4	3.8	24	6
22	FRI	4	4	4	4	3	4	5	6	6	5	5	4	4	4	4	4	4	4	4	3	3	3	3	3	4.0	24	8
23	SAT	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.1	24	6
24	SUN	3	3	4	4	4	4	5	5	4	4	3	3	4	3	3	3	3	3	5	9	9	8	6	8	4.6	24	10
25	MON	9	7	4	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	3	4	5	4	3.7	24	10
26	TUE	4	4	3	4	4	3	4	5	4			3	3	3	3	3	3	3	4	4	3	3	3	3	3.4	22	6
27	WED	3	3	4	3	3	3	3	4	4	3	3	3	3					4	4	4	5	4	4	4	3.5	20	6
28	THU	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	3	3	3.4	24	8
29	FRI	2	2	2	2	2	2	2	3	2	2	2	2	2	2	2	3	3	2	2	2	2	2	2	3	2.2	24	4
30	SAT	2	2	2	2	2	2	2	2	2	2	3	3	3	3	3	3	3	3	3	2	3	3	3	2	2.5	24	4
MONTHLY MEAN		3	3	3	3	3	3	4	4	4	3	3	3	3	3	3	3	3	4	4	4	4	4	4	3	3.4		
NO. OF DAYS		26	26	26	26	26	26	26	26	26	25	26	27	28	27	27	27	27	28	28	28	28	27	27	27		641	
MAX. HRLY MEAN		9	7	5	5	5	6	8	10	9	6	5	5	4	4	5	5	6	7	6	9	9	8	6	8			

TABLE 3-118 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis)

CINCINNATI, APRIL 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	TUE	7	7	7	8	8	10	16	21	12	9	5	4	3			4	4	5	6	6	7	7	6	5	7.5	22	31
2	WED	5	6	6	5	5	6	7	8	7	5	3	3	3	2	3	2	3	3	4	6	5	4	5	6	4.7	24	14
3	THU	5	5	5	5	5	6	7	8	6	4	4	3	3	3	3	3	3	4			4	5	5	5	4.6	22	11
4	FRI	5	5	5	5	5	6	6	7	7	6	6	6	6	6	6	5	5	5	5	7	7	7	7	7	5.8	24	10
5	SAT	5	4	4	4	4	6	8	8	6	6	6	4	4	2	0	0	0	0	0	1	4	6	10	12	4.2	24	15
6	SUN	10	9	11	13	12	10	9	10	10	8	7	5	5	4	3	3	4	5	7	9	12	14	12	12	8.6	24	16
7	MON	12	11	10	10	10	9	9	9	8	7	6	6	5	5	4	5	5	5	6	7	7	9	8	7	7.4	24	14
8	TUE																											
9	WED																											
10	THU																											
11	FRI																											
12	SAT	8	8	8	11	10	11	14	15	13	9	9	8	9	8	8	8	9	9	9	9	10	10	11	11	9.8	24	17
13	SUN	10	11	10	8	8	8	8	9	8	9	8	7	8	7	8	7	7	8	8	9	9	8	9	8	8.3	24	15
14	MON	7	7	7	7	6	6	6	7	7	7	7	6	7	7	7.	6	7	6	7	7	7	8	7	8	6.8	24	9
15	TUE	7	7	7	7	7	7	8	9	9	7				5	6		6	7	6	8	10	10	9	8	7.5	20	12
16	WED	7	7	7	7	7	7	8	10	9	8	8	8	8	8	8	8	9	10	8	9	8	8	8	7	7.9	24	15
17	THU	7	6	6	6	6	7	9	7	6	6	6	6	6	6	6	6	6	6	6	6	6	6	5	5	6.2	24	14
18	FRI	6	6	6	5	6	7	8	9	6	7	7	7	6	6	6	6	6	6	6	7	5	6	5	6	6.2	24	12
19	SAT	5	5	6	5	6	6	7	8	7	6	5	6	5	5	5	6	8	7	7	6	6	6	7	7	6.0	24	14
20	SUN	6	6	6	5	6	6	6	6	6	5	6	6	6	6	6	6	6	6	7	9	14	9	13	12	7.1	24	19
21	MON																											
22	TUE												2	2	1	2	1	2	2	2	2	3	2	2	1	1.7	13	8
23	WED	0	0	0	0	0	0	1	2	2	2	1	2	1	1	2	3	3	4	2	3	2	2	2	1	1.4	24	6
24	THU	1	1	0	1	0	1	3	3	3	1	2				3	3	4	3	4	4	4	5	4	4	2.5	21	10
25	FRI	4	4	4	3	3	4	4	6	5	3	3	3	2	2	2	2	3	3	3	3	4	4	4	4	3.4	24	7
26	SAT	4	4	5	5	5	6	9	11	8	4	3	3	3	3	2	3	4	4	3	4	6	7	5	6	4.8	24	16
27	SUN	9	9	7	8	7	7	9	10	6	3	3	3	2	2	2	1	2	2	3	3	4	4	4	4	4.6	24	12
28	MON	4	5	4	4	4	4	4	4	3	3	2	2	2	2	2	1	1	2	2	3	3	3	2	2	2.7	24	9
29	TUE	2	2	2	2	2	2	3	4	5	3	4			3	3	4	5	6	3	3	3	4	2	3	3.3	22	9
30	WED	3	3	3	3	3	2	3	3	3	3	4	4	3	4	4	4	4	4	3	3	3	4	3	3	3.2	24	6
MONTHLY MEAN		6	6	6	6	6	6	7	8	7	5	5	5	4	4	4	4	5	5	5	5	6	6	6	6	5.5		
NO. OF DAYS		24	24	24	24	24	24	24	24	24	24	23	22	22	23	24	24	25	25	24	24	25	25	25	25		976	
MAX. HRLY MEAN		12	11	11	13	12	11	16	21	13	9	9	8	9	8	8	8	9	10	9	9	14	14	13	12			

TABLE 3-117 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, MARCH 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI																											
2	SAT																											
3	SUN																											
4	MON																											
5	TUE																											
6	WED																											
7	THU																											
8	FRI																											
9	SAT																											
10	SUN																											
11	MON																											
12	TUE																											
13	WED																											
14	THU																											
15	FRI																											
16	SAT																											
17	SUN																											
18	MON																											
19	TUE																											
20	WED																											
21	THU																											
22	FRI																											
23	SAT	9	8	8	6	5	5	5	5	6	8	7	7	6	7	6	5	6	6	7	9	11	8	9	8	6.9	24	18
24	SUN	7	8	8	8	7	7	7	7	8	7	7	6	6	6	6	6	6	6	7	8	8	8	8	7	7.1	24	13
25	MON	6	6	6	6	6	7	9	10	9	6	7	7	6	7	8	11	8	8	7	8	9	8	7	7	7.4	24	14
26	TUE	7	7	7	6	6	7	8	10	8	7	7	6	6	6	7	7	7	8	8	9	9	7	6	6	7.1	24	15
27	WED	6	5	5	5	6	6	6	8	8	7	7	6	6	5	5	5	5	5	7	8	9	9	8	8	6.4	24	14
28	THU	7	6	6	6	6	8	9	11	10	6	5	4	4	4	4	4	4	4	6	10	14	14	15	10	7.4	24	29
29	FRI	10	9	8	7	6	7	8	10	11	8	5	4	3	3	3	3	4	4	5	6	5	7	6	•6	6.1	24	14
30	SAT	5	5	5	5	5	5	5	6	6	7	8	8	7	6	6	6	7	8	8	9	11	9	10	7	6.8	24	18
31	SUN	7	7	6	6	6	6	6	7	7	7	7	7	7	7	6	6	6	7	7	8	7	7	7	7	6.7	24	10
MONTHLY MEAN																												
NO. OF DAYS		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	216		
MAX. HRLY MEAN		10	9	8	8	7	8	9	11	11	8	8	8	7	7	8	11	8	8	8	10	14	14	15	10			

TABLE 3-120 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, JUNE 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SAT																											
2	SUN																											
3	MON																											
4	TUE																											
5	WED																											
6	THU																											
7	FRI																											
8	SAT	7	6	7	6	5	5	4	4	4	2		3	4	4	4	5	4	5	6	7	9	9	8	8	5.4	23	14
9	SUN	8	5	5	3	3	3	4	3	2	3	3	2	2	2	2	1	1				3	4	3	2	3.0	21	11
10	MON																											
11	TUE																											
12	WED																											
13	THU																											
14	FRI																											
15	SAT																											
16	SUN	10	9	10	10	9	8	8	6	6	5	5	5	5	4	3	3	4	4	5	5	6	6	7	7	6.2	24	13
17	MON	7	6	6	5	5	6	9	9	7	6		5	6	6	6	6	7	7	6	8	10	10	10	10	7.1	23	15
18	TUE	9	9	9	9	9	9	13	15	12	7	5	5	5	4	4	4	6	6	5	6	8	10	11	11	7.9	24	20
19	WED	10	9	8	8	7	8	12	12	9	6	5	4	4	4	3			0	0	3	6	7	7	7	6.3	22	15
20	THU	5	5	6	6	5	6	6	7	6	6	6	6	6	5	6	6	6	7	7	9	7	7	8	7	6.3	24	11
21	FRI	6	6	5	5	5	6	6	6	5	3	3	3	4	4	4	4	4	5	4	5	5	8	9	14	5.4	24	24
22	SAT	11	10	11	10	9	9	10	9	3		3	3	3	3	3	3	3	2	2	4	5	5	5	9	5.7	23	13
23	SUN	8	5	9	9	8	7	7	5	3	3	2	2	2	3	2	2	2	2	3	3	4	8	11	10	5.0	24	15
24	MON	9	6	7	6	6	7	11	9	5	3			7	7	7	7	7	7	7	8	10	12	13	13	7.9	22	19
25	TUE	14	11	11	11	12	12	14	16	17	8	7	7	7	7	7	7	7	8	8	9	10	13	14	13	10.3	24	20
26	WED	12	11	11	10	10	11	14	17	17	11	7	7	7	7	7	7	8	6	6	9	9	9	12	12	9.8	24	30
27	THU	10	9	9	9	9	10	11	12	12	10	9	7	7	8	7	7	8	8	7	7	9	10	10	8	8.8	24	14
28	FRI	9	8	7	7	6	7	9	10	10	10	9	7	7	6	7	7	7	9	8	8	8	8	7	7	7.7	24	12
29	SAT	7	7	7	6	6	6	7	7	6	6	6	5	4	4	4	4	5	6	6	7	7	7	6	7	6.0	24	11
30	SUN	6	5	5	4	4	4	4	3	4	3	2	2	1	1	2	3	4	4	3	4	4	5	4	6	3.7	24	9
MONTHLY MEAN		9	7	8	7	7	7	9	9	8	6		5	5	5	5	5	5	5	5	6	7	8	8	9	6.6		
NO. OF DAYS		17	17	17	17	17	17	17	17	17	16	14	16	17	17	17	16	16	16	16	16	17	17	17	17		398	
MAX. HRLY MEAN		14	11	11	11	12	12	14	17	17	11	9	7	7	8	7	7	8	9	8	9	10	13	14	14			

TABLE 3.119 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis)

CINCINNATI, MAY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	WED	2	2	2	2	2	3	3	4	4	3	2	1	2	2	2	2	2	3	2	3	5	8	8	10	3.3	24	13
2	THU	8	6	5	5	5	6	9	6	4	2	1	1	1	1	1	1	2	2	2	3	5	8	8	7	4.0	24	12
3	FRI	7	6	5	5	4	6	6	9	9	6	2	0	1	0	1	1	1	2	2	3	5	6	6	11	4.3	24	14
4	SAT																											
5	SUN																											
6	MON									5	4	4	3	3	2	3	3	3	4	3	4	4	5	5	5	3.7	16	10
7	TUE	5	4	5	5	5	7	9	11	10	4	2	1	1	1	2	2	3	3	2	3	5	5	5	6	4.4	24	14
8	WED	6	3	3	3	3	3	4	4	3	2	1	1	1	1	3	1	1	1	1	0	2	3	2	2	2.2	24	8
9	THU	2	1	2	2	1	2	3	3	1	0	0	0	0	0	0	0	0	0	0	2	4	2	2	1	1.3	24	11
10	FRI	2	1	1	1	1	2	2	2	1	1	1	1	0	0	0	1	0	1	1	1	1	1	1	1	0.9	24	5
11	SAT																											
12	SUN																											
13	MON																											
14	TUE																											
15	WED																											
16	THU																											
17	FRI																											
18	SAT																											
19	SUN																											
20	MON												3	3	3	4	4	5	5	4	5	7	8	8	8	5.1	13	12
21	TUE	7	6	8	6	6	6	7	8	6	3	3	2	2	3	3	3	4	3	3	4	5	5	4	4	4.6	24	9
22	WED	5	4	5	5	5	5	7	6	5	5	4	4	4	4	4	4	5	6	5	6	6	6	6	7	5.1	24	10
23	THU	7	7	8	6	6	7	7	8	6	5	4	4	4	4	5	4	5	5	4	5	5	6	6	6	5.6	24	9
24	FRI	6	6	6	6	6	6	7	7	5	4	3	3	3	3	4	4	4	5	5	7	10	8	11	11	5.9	24	17
25	SAT	13	11	8	7	6	6	6	6	6	5	4	4	4	4	4	4	5	6	5	6	8	7	6	7	6.1	24	20
26	SUN	6	7	6	5	5	5	5	5	5	5	5	4	4	4	4	4	3	4	4	5	5	5	5	5	4.7	24	9
27	MON																											
28	TUE																											
29	WED																											
30	THU																											
31	FRI																											
MONTHLY MEAN																												
NO. OF DAYS		13	13	13	13	13	13	13	13	14	14	14	15	15	15	15	15	15	15	15	15	15	15	15	15		341	
MAX. HRLY MEAN		13	11	8	7	6	7	9	11	10	6	5	4	4	4	5	4	5	6	5	7	10	8	11	11			

TABLE 3-122 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, AUGUST 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	THU																											
2	FRI																											
3	SAT																											
4	SUN																											
5	MON																											
6	TUE																											
7	WED																											
8	THU																											
9	FRI																											
10	SAT																											
11	SUN																											
12	MON																											
13	TUE	11	11	11	10	10	11	11	12	12	12	11	9	9	9	9	9	10	10	11	11	11	11	12	11	10.5	24	12
14	WED	11	11	12	11	11	11	11	11	11	9	9	9	9	9	9	9	10	10	11	11	12	13	13	13	10.6	24	13
15	THU	13	12	12	12	12	12	13	15	12	9	9	9	9	9	12	10	9	10	10	11	11	11	12	13	11.2	24	15
16	FRI	13	13	13	12	12	12	13	14	15	11	9	8	7	8	7	8	8	8	9	10	11	11	12	12	10.6	24	16
17	SAT	12	11	11	11	10	10	10	9	9	8	8	8	8	8	8	7	8	8	9	9	10	10	10	10	9.2	24	12
18	SUN	10	10	10	9	9	9	9	9	9	9	8	8	7	7	7	7	7	8	9	9	9	9	9	9	8.5	24	10
19	MON																											
20	TUE																											
21	WED																											
22	THU																											
23	FRI	15	14	13	13	12	12	13	15	17	16	11	8	7	7	7	7	8	9	10	10	11	13	15	14	11.6	24	19
24	SAT	14	13	13	13	12	11	11	12	11	10	9	8	9	10	9	9	8	8	9	10	12	12	11	10	10.5	24	14
25	SUN	9	9	8	9	8	8	8	8	9	8	7	8	8	9	8	8	8	9	10	10	10	11	10	10	8.8	24	11
26	MON																											
27	TUE																											
28	WED																											
29	THU																											
30	FRI																											
31	SAT																											
MONTHLY MEAN																												
NO. OF DAYS		9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9		216	
MAX. HRLY MEAN		15	14	13	13	12	12	13	15	17	16	11	9	9	10	12	10	10	10	11	11	12	13	15	14			

TABLE 3-121 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, JULY 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	MON																											
2	TUE																											
3	WED																											
4	THU																											
5	FRI																											
6	SAT																											
7	SUN																											
8	MON										0		8	8	8	9	9	9	9	9	9	10	10	10	9	8.3	14	12
9	TUE	9	9	9	9	9	9	10	10	10	8	8	7	8	8	8	9	9	9	8	9	10	11	10	9	9.0	24	14
10	WED	9	9	9	10	10	11	13	12	11	9	9	8	8	9	8	9	9	9	9	10	11	12	14	13	10.1	24	16
11	THU	12	11	11	10	11	11	13	14	14	10	9	8	8	8	9	8	9	9	8	9	11	12	13	14	10.5	24	17
12	FRI	13	14	13	11	10	10	15	15	12	11	9	9	9	9	9	10	10	10	10	12	13	13	13	15	11.4	24	18
13	SAT	13	13	14	13	12	12	12	12	11	11	11	11	11	10	11	12	12	12	13	11	12	12	11	11	11.8	24	18
14	SUN	11	10	11	10	9	10	10	11	10	10	10	10	10	10	9	9	9	10	10	11	11	12	14	11	10.4	24	18
15	MON	10	10	10	10	10	10	11	11	11				9	11	11	11	11	11	11	11	13	14	15	13	11.2	21	22
16	TUE	12	10	10	10	10	11	14	12	10	10	9	7	6	6	5	5	8	8	7	10	10	12	12	11	9.4	24	20
17	WED	8	8	8	8	7	9	10	10	9	7	7	7	7	7	7	7	7	7	7	8	8	9	8	9	7.8	24	13
18	THU	7	8	7	7	7	7	9	9	8	7	7	7	6	6	6	6	6	7	7	7	7	7	7	7	7.1	24	12
19	FRI	6	6	6	6	5	5	7	7	6	6	6	5	5	4	4	4	3	4	4	4	5	4	4	5	4.9	24	11
20	SAT																											
21	SUN																											
22	MON																											
23	TUE	14	13	13	13	13	14	15	17	16	16	13	10	10	11	11	13	14	18	14	14	15	16	16	17	13.9	24	21
24	WED	15	13	13	13	13	13	15	15	13	13	12	12	12	12	12	12	13	13	12	13	14	15	14	14	13.2	24	20
25	THU	13	13	13	13	13	13	14	15	13	11	10	11	12	12	13	13	13	13	17	13	14	14	13	14	12.8	24	17
26	FRI	13	12	12	12	12	13	14	14	12	12	11	11	11	12	12	11	12	12	12	14	14	14	14	13	12.4	24	18
27	SAT	14	12	13	12	12	12	13	13	12	11	11	11	11	10	10	10	10	10	10	12	13	12	14	13	11.7	24	20
28	SUN	12	11	11	11	11	10	11	11	8	8	10	9	10	10	10	9	9	10	11	11	11	11	11	11	10.4	24	15
29	MON	10	10	10	10	10	10	12	12	11	10			11	11	11	11	12	12	11	12	12	12	12	13	11.0	22	15
30	TUE	12	11	10	11	11	12	15	15	13	11	10	10	9	10	10	10	10	11	10	12					11.1	20	18
31	WED																											
MONTHLY MEAN		11	11	11	10	10	11	12	12	11	10	10	9	9	9	9	9	10	10	10	11	11	12	12	12	10.4		
NO. OF DAYS		19	19	19	19	19	19	19	19	19	19	17	18	20	20	20	20	20	20	20	20	19	19	19	19		461	
MAX. HRLY MEAN		15	14	14	13	13	14	15	17	16	16	13	12	12	12	13	13	14	18	14	14	15	16	16	17			

TABLE 3-124 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, OCTOBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN																											
2	MON																											
3	TUE																											
4	WED																											
5	THU																											
6	FRI																											
7	SAT																											
8	SUN																											
9	MON																											
10	TUE																											
11	WED																											
12	THU																											
13	FRI																											
14	SAT																											
15	SUN	22	20	19	17	16	15	16	18	20	17	12	10	9	6	5			6	10	14	16	17	18	18	14.5	22	23
16	MON	15	15	14	13	12	12	12	14	16	13	12	10	7	5											12.1	14	16
17	TUE																											
18	WED																											
19	THU																											
20	FRI																											
21	SAT	12	11	10	9	9	8	7	10	10	6		4	4	3	2	3	4	6	8	11	12	13	13	14	8.2	23	15
22	SUN	15	13	14	13	13	12	12	14	15	16	12	7	3	2	1	1	2	5	8	11	16	18	18	17	10.7	24	19
23	MON	15	14	12	11	10	10	10	12	13	10	4	2	3	3	2	3	4	8	11	13	16	17	18	18	10.0	24	18
24	TUE	16	15	13	11	11	10	10	11	11	9	5	3	2	2	2	2	4	7	8	7	4	6		9	7.8	23	17
25	WED	9	8	10	9	8	8	8	10	12	16	10	5	1	1	2			4	7	8	9	11	13	14	8.3	22	17
26	THU	14	13	12	11	10	9	8	9	9	8	3	1					1	2	4	5	7	7	9	11	7.5	20	15
27	FRI	11	9	8	6	6	5	5	5	4	1					0	0	1	2	1	1	2	2	2	2	3.6	20	12
28	SAT	2	1	1	1	1	2	3	4	4	3	2	2	3	1	0	1	2	3	3	3	3	3	2	3	2.2	24	4
29	SUN	3	3	3	3	3	3	3	4	4	3	2	0	0	0	0	1	2	3	4	5	5	5	5	5	2.8	24	6
30	MON	4	4	3	3	3	3	3	5	6	6	4						4	5	6	7	7	7	7	8	5.0	19	9
31	TUE	8	8	7	7	6	6	6	6	7	6	5	5	4	4	4	4	4	5	6	6	6	6	6	5	5.7	24	9
MONTHLY MEAN																												
NO. OF DAYS		13	13	13	13	13	13	13	13	13	13	11	11	10	10	10	8	10	12	12	12	12	12	11	12	283		
MAX. HRLY MEAN		22	20	19	17	16	15	16	18	20	17	12	10	9	6	5	4	4	8	11	14	16	18	18	18			

TABLE 3.123 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, SEPTEMBER 1963

DAY OF		A M												P M												DAILY	NO.	5-MIN
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	MEAN	OF HR.	MAX.
1	SUN																											
2	MON																											
3	TUE	10	10	10	10	9	9	10	10	9	8	7	7	6	6	7	7	7	8	9	10	10	10	8	10	8.6	24	11
4	WED	10	10	10	9	9	9	9	11	11	11	11	11	11	11	11	12									10.3	16	13
5	THU																											
6	FRI																											
7	SAT																											
8	SUN																											
9	MON																											
10	TUE																											
11	WED																											
12	THU																											
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI																											
21	SAT																											
22	SUN																											
23	MON																											
24	TUE																											
25	WED																											
26	THU																											
27	FRI																											
28	SAT																											
29	SUN																											
30	MON																											
MONTHLY MEAN																												
NO. OF DAYS		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	1		40	
MAX. HRLY MEAN		10	10	10	10	9	9	10	11	11	11	11	11	11	11	11	12	7	8	9	10	10	10	8	10			

TABLE 3-126 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, DECEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR	5-MIN MAX.
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	SUN	8	7	7	7	6	5	6	6	6		6	8	7	7	7	8	8	7	7	7	8	8	7	8	7.0	23	13
2	MON	9				6	6			8	8	8	6	2	4	7	11	11	13	12	10	7	6	6	6	7.6	19	15
3	TUE	6	5	4	3	4	5	8	11	6	7	6	6	5	7	6	6	4	4	6	4	3	5	4	4	5.3	24	17
4	WED	5	4	3	4	4	3	3	4	5			11	13	13	12	11	12	12	11	10	8	8	13	10	8.1	22	16
5	THU	10	11	10	10	16	14			4	4	8	10	11	10	7	6	7	6	6	5	8	8	3	1	8.0	22	26
6	FRI	5	2	1	1	1	1	1	2	4	4	4	4	4	4	4	4	4	5	7	9	7	5	5	5	3.7	24	11
7	SAT	3	4	3	4	4	3	3	3	3	4	4	3	3	3	3	3	3	4	6	6	6	5	5	4	3.8	24	7
8	SUN																											
9	MON																											
10	TUE																											
11	WED																											
12	THU																											
13	FRI																											
14	SAT																											
15	SUN																											
16	MON																											
17	TUE																											
18	WED																											
19	THU																											
20	FRI																											
21	SAT																											
22	SUN																											
23	MON																											
24	TUE																											
25	WED																											
26	THU																											
27	FRI																											
28	SAT																											
29	SUN																											
30	MON																											
31	TUE																											
MONTHLY MEAN NO. OF DAYS MAX. HRLY MEAN		7 10	6 11	6 10	6 10	7 16	7 14	5 8	5 11	7 8	5 8	6 8	7 11	7 13	7 13	7 12	7 11	7 12	7 13	7 12	7 10	7 8	7 8	7 13	7 10	158		

TABLE 3-125 HOURLY AVERAGES OF CARBON MONOXIDE, ppm (infrared analysis) CINCINNATI, NOVEMBER 1963

DAY OF		A M												P M												DAILY MEAN	NO. OF HR.	5-HOUR MAX
MONTH	WEEK	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11			
1	FRI	4	3	3	3	3	3				3	2	2	1	0	1	1	1	1	2	3	3	3	3	3	2.2	21	4
2	SAT	2	1	1		1	1	1	2	2	2	2	2	2	2	3	3	3	4	4	5	5	4	5	4	2.6	23	6
3	SUN	4	3	2	2	1	1	1	2	2	3	3	2	2	2	1	1	2	3	4	4	4	2	1	3	2.2	24	5
4	MON	3	2	2	2	2	2	2	2	3	4					1	3	6	5	5	5	5	5	4	3	3.3	20	8
5	TUE	3	3	3	2	2	2	2	2	3	3	4	4	5	5	4	4	8	7	6	6	5	4	4	3	3.9	24	9
6	WED	3	3	3	3	3	2	2	3	4	5	5	5	4	4	3	3	4	4	5	5	5	4	4	4	3.7	24	7
7	THU	4	4	3	4	4	4	4	5	5	5	4	2	2			2	4	4	6	7	7	7	6	6	4.4	22	7
8	FRI	6	5	5	5	4	4	4	5	6	5	3	2	2	2	2	3	4	5	7	8	9	11	11	11	5.3	24	11
9	SAT	10	10	9	9	8	8	7	8		9	8	6	4	3	3	3	4		7	8	8	9	10	15	7.6	22	18
10	SUN	13	12	11	10	9	8	8	8	8	7	7	7	5	4	5	4	4	5	6	7	9	9	9	8	7.6	24	13
11	MON	7	7	7	6	6	6	6	6	7	6	4	2	2	2	3	3	4	5	7	7	7	7	6	6	5.3	24	8
12	TUE	5	5	5	4	5	4	5	6	6	6	5	4	4	4	4	5	6	7	7	7	5	4	4	4	5.0	24	12
13	WED	4	4	4	3	3	3	3	5	5	6	6	5	6	7	7	8	8	8	6	6	4	4	4	4	5.1	24	11
14	THU	4	3	3							2	2	2	2	4	4	6	10	9	7	7	6	5	4	3	4.6	18	12
15	FRI	3	2	2	2	2	2	2	3	4	5	4	2	1	2	2	3	4	5	6	6	6	6	6	4	3.5	24	7
16	SAT	5	5	4	4	3	3	3	3	2	2	2		5	4	3	3	3	4	6	7	7	7	7	7	4.3	23	8
17	SUN	6	6	5	5	5	5	5	5	5	4	3			2	3	4	5	5	6	6	7	7	7	6	5.1	22	8
18	MON	6							6	7	8		4	6	8	7	8	9	9	10	9	9	8	8	8	7.6	17	12
19	TUE		3	3	1	1	1	2	4	6	6	3	5	5	4	4	5	8	9	10	10	9	7	5	4	5.0	23	11
20	WED	3	2		2	2	2			4	4	5	5					3	3	7	11	12	10	13	7	5.7	17	18
21	THU		7	7	6	5	5	5	7	7	7	5	3	3	4	4	3	3	3	3	3	3	3	3	3	4.4	23	12
22	FRI	3	2	2	2	2	2	1	3	4	5	5	5	4	3	4	3	3	3	3	5	4	5	4	3	3.2	24	11
23	SAT	3	4	5	4	4	5	5	5	7	8	7	9	9	8	10	10	10	11	10	8	7	7	7	7	7.0	24	14
24	SUN																											
25	MON				10	9	9	8	9	9	11	11	10	11	11	11	12	11	14	15	15	14	13	13	13	11.2	21	18
26	TUE	12	14	10	9	9	9	9	10	10	8	8	9	8	8	9	7	8	9	9	11	11	10	10	10	9.4	24	20
27	WED	8	9	10	9	9	9	9	10	10	11	13	12	12	10	11	12	12	15	16	18	20	22	20	19	12.7	24	25
28	THU	20	18	18	16	15	15	15	14	16	14	16	16	18	16	16	17	15	17	17	15	17	17	14	14	16.0	24	24
29	FRI	13	14	15	14	10	10	11	10	10	10		9	10	10	10	10	11	11	11	12	12	14	13		11.4	22	21
30	SAT	11	11	11	11	13	9	9	10	10	10	11	12	12	13	11		15	12	10	11	12	10	10	11	11.0	23	21
MONTHLY MEAN		6	6	6	6	5	5	5	6	6	6	6	6	6	5	5	5	6	7	7	8	8	8	7	7	6.2		
NO. OF DAYS		26	27	26	26	27	27	25	26	26	29	26	26	26	26	27	27	29	28	29	29	29	29	29	28		653	
MAX. HRLY MEAN		20	18	18	16	15	15	15	14	16	14	16	16	18	16	16	17	15	17	17	18	20	22	20	19			

TABLE 3-128 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, FEBRUARY 1963

DAY OF		A M						P M						DAILY MEAN	NO.	MAX.
MONTH	WEEK	12	2	4	6	8	10	12	2	4	6	8	10			
1	FRI	1.3	0.9	1.2	2.1	2.3	2.0	2.6	1.8	2.2	2.5	2.5	2.4	2.02	12	2.6
2	SAT	2.5	1.4	1.2	1.2	2.4	2.7	1.3	0.9	1.7	1.0	1.3	0.9	1.57	12	2.7
3	SUN	1.0	0.4	0.7	0.5	0.9	1.5	1.0	1.1	1.5	1.9	1.9	1.4	1.18	12	1.9
4	MON	3.2	1.7	2.5	2.4	2.9	2.5	1.7	1.8	1.7	2.8	2.5	1.9	2.34	12	3.2
5	TUE	2.0	2.4	3.6	5.0	4.5	4.2	2.6	1.8	2.0	4.2	4.3	5.1	3.52	12	5.1
6	WED	4.4	4.6	4.4	4.5	5.4	4.5	2.3	2.2	2.1	3.6	3.8	3.8	3.84	12	5.4
7	THU	1.4	1.7	1.7	2.1	2.6	2.3	2.6	2.0	2.2	1.5	1.8	1.7	2.00	12	2.6
8	FRI	0.8	0.6	0.6	1.4	1.2	1.5	1.2	1.2	1.6	1.6	1.3	1.5	1.26	12	1.6
9	SAT	1.2	1.2	1.5	1.7	2.6	2.7	1.9	2.5	2.1	2.7	2.2	2.2	2.08	12	2.7
10	SUN	2.5	2.7	2.0	2.0	2.2	3.2	2.8	2.1	3.1	2.8	2.2		2.56	11	3.2
11	MON			1.9	2.4	1.5	2.3	2.6	2.0	1.7	1.8	1.7	1.8	2.02	10	2.6
12	TUE	1.4	1.8	2.1	2.3	1.8	1.9	1.6	1.9	1.8	1.6	1.7	1.5	1.83	12	2.3
13	WED	1.7	1.3	2.9	2.4	2.4	2.5	1.5	1.8	2.2	1.4	1.5	1.5	1.97	12	2.9
14	THU	1.1	0.8	1.4	2.0	1.4	1.3	1.4	1.5	1.5	1.0	1.3	0.6	1.32	12	2.0
15	FRI	1.0	1.6	2.4	1.8	1.8	1.5	1.5	1.4	1.9	2.0	2.2	2.5	1.83	12	2.5
16	SAT	3.3	3.2	3.4	3.6	2.5	2.6	1.4	1.5	2.2	2.3	2.2	2.4	2.60	12	3.6
17	SUN	2.1	2.3	2.0	2.4	1.8	1.8	1.8	1.8	2.8	2.5	1.5	1.6	2.07	12	2.8
18	MON	2.1	2.5	3.2	3.9	2.4										3.9
19	TUE															
20	WED						1.5	1.2	0.9	0.6	1.0	0.7	0.5	0.97	07	1.5
21	THU	0.3	0.7	0.8	1.3	1.1	0.9	1.0	1.4	0.8	1.2	1.0	0.8	0.99	12	1.4
22	FRI	0.6	0.9	1.1	2.3	2.5	1.3	1.9	1.2	1.7	2.0	2.3	1.5	1.65	12	2.5
23	SAT	2.1	1.7	2.2	2.4	2.3	1.5	1.1	1.2		1.3	1.3	1.2	1.70	11	2.4
24	SUN	0.5	0.6	0.5	0.7		1.3	0.9	1.1	1.3	1.3	1.4		1.00	10	1.4
25	MON				2.5	2.3	1.8	1.6	1.6	1.3	1.0	1.3	1.0	1.65	09	2.5
26	TUE	1.0	1.1	1.5	1.7	1.7	1.0	0.4	1.3	1.1	1.5	1.4	1.5	1.30	12	1.7
27	WED	1.4	1.7	2.0	2.9	2.6	1.8	1.6	1.9	1.9	1.9	2.2	2.3	2.06	12	2.9
28	THU	2.3	2.1	2.8	3.9	5.0	4.1	2.2	2.0	2.3	1.9	1.6	1.3	2.65	12	5.0
MONTHLY MEAN		1.76	1.70	2.02	2.42	2.44	2.20	1.72	1.65	1.84	1.98	1.93	1.84	1.96		
NO. OF DAYS		24	24	25	26	25	26	26	26	25	26	26	24		303	
MAX.		4.4	4.6	4.4	5.0	5.4	4.5	2.8	2.5	3.1	4.2	4.3	5.1			5.4

TABLE 3-127 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, JANUARY 1963

DAY OF		A M						P M						DAILY MEAN	NO.	MAX.
MONTH	WEEK	12	2	4	6	8	10	12	2	4	6	8	10			
1	TUE															
2	WED															
3	THU															
4	FRI															
5	SAT															
6	SUN															
7	MON															
8	TUE															
9	WED															
10	THU															
11	FRI															
12	SAT															
13	SUN															
14	MON															
15	TUE															
16	WED															
17	THU							1.9	1.3	2.0	2.4	3.6	3.2			3.6
18	FRI	2.7	2.2	2.1	2.3	2.0	2.2	1.5	1.5	1.8	2.1	3.4	3.3	2.31	12	3.4
19	SAT	1.6	1.8	1.7	1.9	2.3	2.2	1.7	2.0	2.1	1.5	1.8	1.2	1.85	12	2.3
20	SUN	1.1	1.1	0.8	0.6	1.1	1.4	0.7	1.0	1.1	0.2	0.9	0.3	0.89	12	1.4
21	MON	0.5	0.8	0.8	1.5	1.8	0.3		0.2	0.1	1.2	1.6	1.8	1.01	11	1.8
22	TUE	1.6	1.5	1.6	1.7	0.9	0.6	1.1	1.9	2.2	1.8	1.6	1.5	1.54	12	2.2
23	WED	2.5	3.0	3.6	1.1	1.3	1.1	1.0	1.0	1.1	1.4	1.2	1.1	1.66	12	3.6
24	THU	1.7	1.8	1.3	0.9	1.0	0.8	1.4	2.0	2.6	1.9	2.0	2.0	1.66	12	2.6
25	FRI	2.7	2.4	2.1	1.7	1.6	1.6	1.8	2.7	3.1	2.6	2.3	1.5	2.21	12	3.1
26	SAT	1.9	1.8	1.6	1.5	1.6	1.5	1.9	2.2	2.6	2.3	1.7	2.2	1.94	12	2.6
27	SUN	1.9	2.0	1.9	1.7	1.1	0.7	1.5	0.9	1.3	1.4	1.3	1.4	1.46	12	2.0
28	MON	1.5	1.8	1.5	2.2	4.3	4.1	3.1	1.7	1.5	1.3	1.8	1.9	2.26	12	4.3
29	TUE	2.2	2.9	3.2	3.4	3.6	4.7	3.1	3.0	2.4	2.4	2.5	1.5	2.94	12	4.7
30	WED	1.2	1.2	1.6	2.2	1.9	2.4	1.9	2.0	2.2	2.0	1.9	1.9	1.91	12	2.4
31	THU	1.6	0.9	1.4	1.1	2.4	2.9	2.0	2.3	1.6	1.6	1.2	1.2	1.71	12	2.9
MONTHLY MEAN																
NO. OF DAYS		14	14	14	14	14	14	14	15	15	15	15	15		173	
MAX.		2.7	3.0	3.6	3.4	4.3	4.7	3.1	3.0	3.1	2.6	3.6	3.3			4.7

TABLE 3-130 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, APRIL 1963

DAY OF		A M						P M						DAILY MEAN	NO.	MAX.
MONTH	WEEK	12	2	4	6	8	10	12	2	4	6	8	10			
1	MON			4.2	2.9	1.0	0.2	1.2	1.1	1.3	1.2	1.0	1.2	1.56	10	4.2
2	TUE	1.6	1.9	1.5	1.0	1.0	0.5	0.8	0.9	1.0	0.9	0.8	1.2	1.13	12	1.9
3	WED	1.2	1.5	1.2	1.0	1.1	0.8	0.6	0.6	0.3	0.3	0.2		0.83	11	1.5
4	THU	0.7	0.8	1.1	0.9	1.2	1.2	1.0	1.0	1.7	1.6	0.8	1.9	1.19	12	1.9
5	FRI	3.3	3.6	1.8	0.7	0.9	1.2	1.2	1.4	2.8	3.5	3.5	4.7	2.41	12	4.7
6	SAT	4.0	5.0	3.3	2.4	1.2	1.2	1.1	2.5	4.1	3.8	3.7	3.3	3.01	12	5.0
7	SUN	3.2	2.7	1.5	0.8	0.7	0.6	0.8	1.2	1.6	0.9	0.2	0.8	1.28	12	3.2
8	MON	1.7	2.6	2.6	1.0	1.3	2.3	2.8	4.0	2.6	0.9	0.8	1.6	2.06	12	4.0
9	TUE	1.6	1.6	1.6	1.2	0.6	0.9	0.9	1.3	1.7	1.4	1.0	1.1	1.29	12	1.7
10	WED	1.8	2.1	1.2	1.3	0.8	0.9	1.0	1.0	2.6	2.8	1.2	1.4	1.56	12	2.8
11	THU	2.2	2.1	1.7	1.0	1.2	1.1	1.0	1.0	2.3	1.1	1.0	2.4	1.53	12	2.4
12	FRI	3.9	4.9	3.4	1.9	1.4	1.1	1.3	1.1	2.2	2.8	3.2	2.3	2.50	12	4.9
13	SAT	1.4	1.6	1.2	0.7	0.8	0.7	0.5	1.0	2.0	1.0	1.2	0.9	1.12	12	2.0
14	SUN	0.9	1.4	1.0	0.6	0.6	0.6	0.6	1.2					0.90	08	1.4
15	MON				3.0	3.6	0.6	0.7	0.7	1.0	1.0	3.0	3.2	1.90	09	3.6
16	TUE	3.4	3.0	2.7	2.7	1.8	2.2	2.0	1.9	2.2	2.5	1.8	1.7	2.36	12	3.4
17	WED	1.5	1.7	1.2	1.5	1.4	1.5	1.5	0.9	0.6	0.7	0.8	0.3	1.17	12	1.7
18	THU	0.9	1.0	1.1	1.6	1.3	1.4	0.8	0.9	0.9	0.8	0.5	0.8	1.03	12	1.6
19	FRI	0.7	0.8	0.7	0.9	0.9	0.9	0.8	0.8	0.8	0.7	0.8	0.6	0.82	12	0.9
20	SAT	0.3	0.5	0.5	0.3	0.8	1.3	0.6	0.7	0.3	1.1	2.1	2.3	0.94	12	2.3
21	SUN	3.1	2.0	1.7	0.9	0.6	0.5	0.3	0.6	0.6	0.8	1.0		1.16	11	3.1
22	MON															
23	TUE															
24	WED															
25	THU															
26	FRI															
27	SAT															
28	SUN															
29	MON															
30	TUE															
MONTHLY MEAN		2.01	2.18	1.80	1.38	1.18	1.08	1.07	1.26	1.67	1.53	1.46	1.81	1.51		
NO. OF DAYS		19	19	20	21	21	21	21	21	20	20	20	18		241	
MAX.		4.0	5.0	4.2	3.0	3.6	2.3	2.8	4.0	4.1	3.8	3.7	4.7			5.0

TABLE 3-129 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, MARCH 1963

DAY OF		A M						P M						DAILY MEAN	NO.	MAX.
MONTH	WEEK	12	2	4	6	8	10	12	2	4	6	8	10			
1	FRI	1.4	1.5	1.5	1.9	2.4	2.2	2.3	2.3	2.3	1.7	1.8	1.5	1.95	12	2.4
2	SAT	1.4	1.2	1.4	1.7	2.0	1.9	1.8	1.3	1.3	2.4	3.1	3.6	1.96	12	3.6
3	SUN	3.1	2.9	2.5	2.6	3.3	2.8	1.6	0.8	1.0	2.4	3.9		2.49	11	3.9
4	MON				3.7	2.4	2.0	1.4	2.0	2.1	2.2	2.4	2.5	2.33	09	3.7
5	TUE	1.4	1.5	1.4	2.2	1.8	2.5	1.9	1.5	1.7	1.4	1.0	0.8	1.62	12	2.5
6	WED	0.4	0.5	0.5	1.2	0.8	1.5	1.0	1.0	0.7	1.6	1.6	1.2	1.04	12	1.6
7	THU	0.5	0.7	0.6	1.6	1.4	1.4	1.4	1.2	1.0	1.5	1.8	1.2	1.22	12	1.8
8	FRI	0.3	0.5	0.5	2.0	1.5	1.7	1.2	1.1	1.1	1.8	2.2	3.7	1.52	12	3.7
9	SAT	3.5	2.6	1.7	1.3	1.6	2.3	2.1	1.8	1.6	1.7	1.3	1.3	1.94	12	3.5
10	SUN	0.7	0.9	0.6	1.0	1.1	0.7	0.5	0.9	1.0	1.1	1.2		0.92	11	1.2
11	MON						4.2	2.3	2.3	2.1	2.2	1.7	1.5	2.36	07	4.2
12	TUE	2.1	4.2	2.5	2.1	1.2	0.6	2.0	2.0	0.8	0.6	0.7	2.1	1.78	12	4.2
13	WED	1.7	1.1	1.0	1.0	1.3	1.8	1.7	1.4	1.3	0.9	0.8	0.7	1.26	12	1.8
14	THU	1.6	1.6	1.3	1.3	0.8	1.3	1.3	1.0	1.7	1.8	1.9	1.4	1.45	12	1.9
15	FRI	1.6	0.8	0.9	1.0	1.0	1.4	0.9	1.9	2.6	2.6	2.1	2.7	1.66	12	2.7
16	SAT	3.1	2.9	2.6	2.8	1.9	1.9	3.1	2.3	1.3	1.1	0.9	0.8	2.11	12	3.1
17	SUN	1.1	0.8	0.8	0.8	0.5	0.4	0.5	0.7	0.6	0.4	0.6	0.9	0.71	12	1.1
18	MON	1.4	1.1	1.2	1.6	1.4	1.1	1.3	1.2					1.33	08	1.6
19	TUE	2.5	2.6	2.4	3.6	1.3	0.9	0.8	1.3	0.6	0.3	0.4	0.3	1.47	12	3.6
20	WED	0.5	1.6	1.2	1.2	1.2	1.0	1.3	0.8	0.3	0.5	0.3	0.4	0.94	12	1.6
21	THU	1.3	0.6	1.2	0.8	0.9	1.1	1.2	1.1	1.1	1.0	0.9	0.8	1.03	12	1.3
22	FRI	1.8	1.6	1.4	0.8	0.7	1.7	1.8	3.5	3.6	5.2	4.8	3.7	2.60	12	5.2
23	SAT	3.0	3.1	1.4	1.2	1.1	1.2	1.7	1.7	1.7	1.6	1.9	1.6	1.81	12	3.1
24	SUN	2.4	2.4	0.7	1.0	0.6	0.9	1.0	0.7	0.7	0.7	0.8	0.9	1.11	12	2.4
25	MON	2.7	2.0	1.8	1.2	1.4	1.4	1.1				1.6	0.5	1.56	09	2.7
26	TUE	0.5	0.4	1.0	1.6	1.6	0.9	0.9	1.2	1.1	0.8	1.1	0.9	1.06	12	1.6
27	WED	0.5	0.6	1.1	2.0	1.8	1.5	1.5	1.5	1.2	2.2	2.0	1.7	1.51	12	2.2
28	THU	1.0	1.1	2.1	3.3	2.6	1.2	1.1	0.8	1.0	2.6	3.6	3.9	2.07	12	3.9
29	FRI	3.1	2.9	3.0	3.8	2.3	1.0	1.0	1.2	1.0	0.9	1.0	0.9	1.88	12	3.8
30	SAT	0.9	0.7	1.6	1.8	1.6	1.3	1.2	1.2	1.5	1.9	2.0	1.9	1.50	12	2.0
31	SUN	1.2	1.2	1.4	1.2	1.0	0.9	1.0	0.8	0.9	1.3	1.0		1.11	11	1.4
MONTHLY MEAN		1.65	1.61	1.46	1.82	1.53	1.55	1.45	1.45	1.40	1.64	1.71	1.65	1.59		
NO. OF DAYS		29	29	29	30	30	31	31	30	29	29	30	27		354	
MAX		3.5	4.2	3.0	3.8	3.3	4.2	3.1	3.5	3.6	5.2	4.8	3.9			5.2

TABLE 3-132 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, OCTOBER 1963

DAY OF		A M						P M						DAILY MEAN	NO.	MAX.
MONTH	WEEK	12	2	4	6	8	10	12	2	4	6	8	10			
1	TUE															
2	WED															
3	THU															
4	FRI															
5	SAT															
6	SUN															
7	MON															
8	TUE															
9	WED															
10	THU															
11	FRI															
12	SAT															
13	SUN															
14	MON															
15	TUE															
16	WED															
17	THU						1.7	0.7	0.3	0.6	1.6	1.9	2.2	1.36	07	2.2
18	FRI	2.0	2.2	2.0	2.9	2.6	2.2	0.3	0.2	0.5	2.0	2.5	2.0	1.84	12	2.9
19	SAT	2.1	2.4	2.0	2.6	2.0	1.9	0.4	0.4	0.2	0.8	1.7	1.0	1.51	12	2.6
20	SUN	0.8	0.3	0.5	1.7	1.1	1.0	0.4	1.0	0.6	1.6	2.1	1.9	1.13	12	2.1
21	MON	2.2	1.9	1.5	2.8	1.4	1.4	1.0	0.3	0.8	0.5	1.9	1.8	1.50	12	2.8
22	TUE	2.3	1.9	2.8	2.8	2.5	1.8	1.1	0.8	0.7	1.5	2.2	2.2	1.92	12	2.8
23	WED	2.1	1.7	2.0	2.4	2.5	1.4	1.3	0.6	1.2	1.7	2.3	2.7	1.87	12	2.7
24	THU	1.5	1.5	1.9	2.3	2.2	0.9	0.7	0.6	0.8	0.6	1.3	1.9	1.39	12	2.3
25	FRI	1.6	1.9	1.4	2.5	3.4	1.9	0.3	0.5	0.8	0.8	0.9	2.1	1.54	12	3.4
26	SAT	2.0	1.6	2.0	2.3	1.7	1.2	0.4	0.6	0.3	0.6	0.6	0.9	1.22	12	2.3
27	SUN	1.1	0.8	1.2	1.5	1.1	0.2	0.3	0.2	0.2	0.4	0.4	0.5	0.71	12	1.5
28	MON	0.7	0.5	0.5	0.8	0.9	0.6	0.8	0.7	0.7	0.7	0.3	0.9	0.73	12	0.9
29	TUE	0.6	1.0	0.6	1.4	1.3	0.8	0.9	0.6	0.6	1.2	1.9	1.4	1.08	12	1.9
30	WED	1.4	1.0	1.5	1.9	3.0	1.6	0.8	0.4	0.7	1.3	1.7	2.4	1.50	12	3.0
31	THU	1.6	2.2	1.5	1.8	1.8	1.2	1.3	1.2	0.9	0.9	1.5	1.1	1.45	12	2.2
MONTHLY MEAN																
NO. OF DAYS		14	14	14	14	14	15	15	15	15	15	15	15		175	
MAX.		2.3	2.4	2.8	2.9	3.4	2.2	1.3	1.2	1.2	2.0	2.5	2.7			3.4

TABLE 3-131 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, JULY 1963

DAY OF MONTH	DAY OF WEEK	A M 12	A M 2	A M 4	A M 6	A M 8	A M 10	P M 12	P M 2	P M 4	P M 6	P M 8	P M 10	DAILY MEAN	NO.	MAX.
1	MON															
2	TUE															
3	WED															
4	THU															
5	FRI															
6	SAT															
7	SUN															
8	MON															
9	TUE															
10	WED															
11	THU															
12	FRI															
13	SAT															
14	SUN															
15	MON															
16	TUE															
17	WED							0.4	0.0	0.5	0.6	0.4	1.1			1.1
18	THU	1.0	0.5	0.7	0.2	0.7	1.1	0.7	0.7	0.6	0.4	0.7	1.0	0.73	12	1.1
19	FRI	0.7	0.3	0.5	0.4	0.6	1.0	1.1	0.6	0.8				0.71	9	1.1
20	SAT															
21	SUN															
22	MON															
23	TUE						0.6	0.6	0.8	1.4	0.6	0.7	1.4	0.92	7	1.4
24	WED	1.1	0.4	1.4	1.6	0.7	0.3	0.3	0.5	0.7	0.4	0.7	0.6	0.76	12	1.6
25	THU	0.7	0.9	0.7	1.1	1.3	0.7	0.8	0.7	0.7	0.5	1.4	1.4	0.95	12	1.4
26	FRI	1.5	0.6	0.6	1.2	0.5	0.4	0.2	0.6	0.6	0.6	0.6	0.8	0.72	12	1.5
27	SAT	0.4	0.7	0.9	1.5	0.6	0.6	0.0	0.3	0.6	0.2	0.3	0.9	0.64	12	1.5
28	SUN	0.9	0.6	1.1	0.7	0.6	0.2	0.4	0.3	0.4	0.4	0.3	0.2	0.54	12	1.1
29	MON	0.8	0.2	0.6	0.6	1.1										1.1
30	TUE															
31	WED															
MONTHLY MEAN																
NO. OF DAYS		8	8	8	8	8	8	9	9	9	8	8	8		99	
MAX.		1.5	0.9	1.4	1.6	1.3	1.1	1.1	0.8	1.4	0.6	1.4	1.4			1.6

TABLE 3-134 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, DECEMBER 1963

DAY OF MONTH	DAY OF WEEK	A M 12	A M 2	A M 4	A M 6	A M 8	A M 10	P M 12	P M 2	P M 4	P M 6	P M 8	P M 10	DAILY MEAN	NO.	MAX
1	SUN	0.8	0.4	0.6	1.4	1.9	1.5	1.5	0.9	1.6	1.7	1.5	1.7	1.33	12	1.9
2	MON	1.9	1.1	1.3	2.2	2.5	1.7	1.1	2.5	2.3	1.5	1.0	1.2	1.73	12	2.5
3	TUE	1.0	1.0	1.1	1.1	1.7	2.1	2.2	1.7	1.7	1.5	1.4	1.4	1.53	12	2.2
4	WED	1.4	1.5	1.8	2.2	2.7	2.3	1.5	1.8	1.2	1.2	1.1	1.7	1.73	12	2.7
5	THU	0.9	0.8	0.6	1.5	1.1	1.9	1.5	1.3	1.5	1.3	1.3	1.7	1.32	12	1.9
6	FRI	1.2	1.2	1.6	2.2	2.7	1.8	1.6	1.7	1.5	2.5	2.2	1.8	1.87	12	2.7
7	SAT	1.7	2.3	1.3	2.1	2.4	1.7	1.4	1.2	1.7	1.8	1.6	1.3	1.75	12	2.4
8	SUN	1.6	0.8	1.0	0.8	0.9	1.0	1.4	1.1	1.3	1.7	1.6	0.9	1.22	12	1.7
9	MON	0.5	0.8	0.5	1.5	1.5	1.4	1.3	1.6	1.3	0.6	0.3	0.6	1.03	12	1.6
10	TUE	0.5	0.6	0.5	2.1	1.7	2.0	1.8	1.7	1.7	1.3	1.1	1.7	1.43	12	2.1
11	WED	0.9	1.0	0.6	1.4	1.1	1.6	1.5	1.4	1.4	1.4	1.1	1.3	1.27	12	1.6
12	THU	1.3	1.0	1.1	1.3	2.1	1.8	1.4	1.9	2.3	1.7	1.7	1.8	1.65	12	2.3
13	FRI	1.0	0.6	0.5	1.2	1.5	1.5	1.6	1.8	2.1	2.4	1.6	1.3	1.48	12	2.4
14	SAT	0.7	0.7	0.6	1.1	1.5	1.9	1.7	1.8	1.2	1.6	1.2	1.3	1.30	12	1.9
15	SUN	1.8	0.8	1.1	1.2	1.6	2.5	1.6	1.6	1.3	1.5	1.6	1.8	1.57	12	2.5
16	MON	1.3	1.1	1.2	2.1	2.4	2.4	2.6	2.0	1.7	1.6	1.5	1.7	1.85	12	2.6
17	TUE	2.7	2.4	3.6	6.0	4.5	3.4	1.9	2.6	1.7	2.1	2.4	1.4	2.92	12	6.0
18	WED	1.2	1.1	1.3	1.4	1.6	1.7	1.4	1.5	1.6	1.1	1.3	1.4	1.44	12	1.7
19	THU	1.1	1.2	1.9	2.5	2.7	2.0	1.6	0.9	1.9	1.6	1.4	1.4	1.72	12	2.7
20	FRI	1.2	1.2	1.0	2.5	3.3	2.9	1.9	2.3	1.9	2.3	2.3	2.2	2.12	12	3.3
21	SAT	2.0	1.3	1.6	2.4	2.6	3.3	3.0	2.3	2.0	3.5	3.5	3.2	2.61	12	3.5
22	SUN	1.7	1.5	1.0	1.8	1.9	1.5	1.4	1.1	1.5	1.7	1.3	1.6	1.55	12	1.9
23	MON	1.7	1.2	1.7	2.5	2.5	2.3	2.3	2.5	1.8	2.4	2.0	1.6	2.08	12	2.5
24	TUE	1.4	0.9	1.2	2.2	2.8	2.0	2.0	1.5	1.9	1.8	1.2	1.1	1.71	12	2.8
25	WED	1.6	0.7	1.1	1.7	2.0	1.9	2.4	2.0	1.9	1.7	1.7	1.7	1.74	12	2.4
26	THU	1.7	1.2	1.0	1.7	2.5	2.1	2.1	1.6	1.8	2.1	1.6	0.6	1.72	12	2.5
27	FRI	0.4	0.6	0.5	1.1	1.0	1.5	1.5	1.3	1.2	0.8	0.6	0.8	0.99	12	1.5
28	SAT	0.9	0.8	0.6	0.8	1.8	1.1	1.2	1.3	2.1	2.6	2.7	3.0	1.63	12	3.0
29	SUN	2.8	1.1	1.6	2.2	2.4	2.0	1.2	1.5	1.5	1.2	1.1	0.9	1.66	12	2.8
30	MON	1.3	0.9	1.1	2.4	3.4	4.2	3.8	1.9	1.4	1.9	1.9	1.4	2.18	12	4.2
31	TUE	1.4	1.7	2.1	2.1	2.7	1.9	1.7	1.3	1.4	1.6	1.8	1.7	1.83	12	2.7
MONTHLY MEAN		1.38	1.13	1.23	1.93	2.20	2.06	1.82	1.71	1.69	1.78	1.61	1.56	1.68		
NO. OF DAYS		31	31	31	31	31	31	31	31	31	31	31	31		372	
MAX		2.8	2.4	3.6	6.0	4.5	4.2	3.8	2.6	2.3	3.5	3.5	3.2			6.0

TABLE 3-133 TWO-HOUR AVERAGED SOILING INDEX, COHS per 1000 lin. feet CINCINNATI, NOVEMBER 1963

DAY OF		A M						P M						DAILY MEAN	NO.	MAX.
MONTH	WEEK	12	2	4	6	8	10	12	2	4	6	8	10			
1	FRI	0.5	0.8	0.6	1.2	1.0	1.0	0.8	0.3	0.6	0.9	0.7	1.3	0.85	12	1.3
2	SAT	0.7	0.8	0.5	0.8	1.0	0.7	0.7	0.3	0.9	1.6	1.5	1.2	0.93	12	1.6
3	SUN	1.4	1.2	2.3	2.6	2.5	1.1	1.1	0.8	0.8	1.4	1.3	1.7	1.56	12	2.6
4	MON	1.2	1.5	1.5	1.8	2.8	1.9	1.5	1.3	1.9	1.6	1.1	1.2	1.66	12	2.8
5	TUE	1.5	1.0	1.1	1.4	2.2	1.6	2.2	1.1	1.2	1.3	1.1	1.1	1.45	12	2.2
6	WED	1.5	0.8	1.0	1.6	1.5	1.3	2.1	1.1	1.3	1.4	1.0	1.0	1.32	12	2.1
7	THU	1.1	1.2	1.6	1.4	1.8	1.1	0.9	1.0	1.1	1.8	1.8	2.1	1.46	12	2.1
8	FRI	1.3	1.3	1.8	1.7	2.0	1.0	0.9	0.4	1.1	2.1	2.5	2.0	1.55	12	2.5
9	SAT	3.0	2.5	2.9	4.6	5.1	3.1	1.3	0.7	1.0	1.4	2.3	3.4	2.66	12	5.1
10	SUN	3.3	3.0	3.3	3.1	3.8	2.5	1.4	1.0	0.7	2.3	2.2	1.5	2.38	12	3.8
11	MON	1.5	1.7	1.2	2.2	2.7	1.0	0.7	0.6	0.6	1.4	0.8	0.6	1.28	12	2.7
12	TUE	0.8	0.7	0.7	1.5	1.5	1.1	1.2	1.0	1.1	1.1	1.1	1.3	1.12	12	1.5
13	WED	0.8	0.8	0.8	2.0	1.6	1.2	0.9	1.3	1.7	1.1	1.1	0.8	1.22	12	2.0
14	THU	0.7	0.7	0.9	1.1	1.8	1.8	1.0	1.6	1.3	2.0	1.7	1.3	1.38	12	2.0
15	FRI	1.6	1.3	1.0	2.0	2.9	1.8	1.3	1.0	1.8	2.2	1.7	1.3	1.70	12	2.9
16	SAT	0.7	1.1	0.8	1.5	2.0	1.4	1.4	0.8	1.9	2.0	1.0	1.3	1.36	12	2.0
17	SUN	0.9	0.8	0.7	1.2	0.9	0.7	0.8	0.5	0.6	0.8	0.3	0.3	0.75	12	1.2
18	MON							1.3	1.3	1.5	2.6	2.3	2.0			2.6
19	TUE	2.3	1.9	1.9	5.2	4.9	3.3	2.5	3.8	3.6	2.7	1.9	1.1	2.96	12	5.2
20	WED	1.0	1.5	1.5	3.3	3.6	2.8	1.7	1.5	1.6	1.6	1.1	1.7	1.94	12	3.6
21	THU	0.7	0.6	1.3	2.1	2.1	1.6	0.9	0.9	1.1	1.3	1.4	2.0	1.38	12	2.1
22	FRI	1.5	1.7	1.4	3.1	2.8	2.5	1.3	0.9	0.5	0.9	0.6	0.3	1.51	12	3.1
23	SAT	0.1	0.2	0.4	0.2	0.6	1.3	1.1	0.8	1.0	1.0	1.2	0.7	0.76	12	1.3
24	SUN	0.4	1.1	1.2	1.8	1.8	1.7	1.4	1.4	1.5	3.3	3.8	3.4	1.95	12	3.8
25	MON	4.2	1.9	1.2	0.9	1.3	1.0	0.9	0.8	1.5	1.5	2.2	2.6	1.71	12	4.2
26	TUE						1.7	1.2	0.5	1.4	1.7	1.5	1.0	1.33	07	1.7
27	WED	0.8	1.1	1.0	2.4	2.6	2.0	1.7	1.1	1.6	1.6	2.1	2.6	1.76	12	2.6
28	THU	3.5	3.0	3.6	2.4	2.1	2.4	1.4	0.9	0.9	1.4	1.5	0.8	2.03	12	3.6
29	FRI	0.6	0.3	0.6	1.0	1.1	1.2	0.7	0.8	0.7	0.1	0.6	0.8	0.75	12	1.2
30	SAT	0.9	0.7	0.5	0.9	1.7	1.0	1.6	1.4	1.0	0.9	0.7	0.9	1.06	12	1.7
MONTHLY MEAN		1.40	1.30	1.37	2.00	2.25	1.65	1.31	1.08	1.29	1.60	1.51	1.49	1.52		
NO. OF DAYS		28	28	28	28	28	29	30	30	30	30	30	30		349	
MAX.		4.2	3.0	3.6	5.2	5.1	3.3	2.5	3.8	3.6	3.3	3.8	3.4			5.2

TABLE 3-136 BENZENE-SOLUBLE ORGANIC MATTER, μgm/m³ CINCINNATI, 1963

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.	DEC.
1		4.8		1.6*	6.0		6.5	5.9	13.8	15.8	9.9	6.3
2		6.3		9.8	15.9	15.7		9.3	13.1	8.2	7.5	2.2
3			24.0*	8.9	16.6	9.7	7.1	6.1	7.9	4.7		4.5
4			24.0*	6.4	18.4	7.2	7.1	5.2	5.8	7.0	7.0	4.0
5	16.5	17.5	8.8	3.5	7.2	5.5		6.9	10.4	26.5	6.1	4.7
6	25.2	43.1	4.7	2.9	12.9	7.0		4.8	16.5	17.0	8.1	4.7
7	10.6	10.1	6.7	9.8*	12.0	8.4		5.1	29.3	10.5	10.6	6.1
8	11.1	6.8		9.8*	12.8	12.1	4.1	11.5	12.3	7.8	9.3	4.5
9	10.1			3.8	10.7	4.7	2.5	14.7	14.0	20.1	19.4	3.8
10	12.8				9.2	4.8	13.7	12.1	23.2	30.5	14.5	4.9
11	14.6			8.2	8.4	5.5	2.2	11.3	7.6	10.6	12.4	4.7
12	12.8			13.1	4.4	5.3	7.6	10.2	6.7	9.2	8.8	2.7
13		6.8		11.1	8.2	9.7	6.1	6.6	7.4	5.3	7.6	4.7
14	8.2	6.4	6.7	4.0	8.1	6.1	4.5	8.2	4.8	20.0	6.4	5.8
15	10.7			8.3	20.6	7.3	7.1	11.4	3.4	26.5	13.1	7.1
16	19.5			6.8	6.8	11.6	7.7	14.7	14.8	19.2	9.9	7.9
17	26.6			9.0	10.0	8.4	4.6	8.5	20.2	23.4	9.8	11.8
18	18.2	5.9	3.6	6.6	8.1	15.3	4.8	6.8	28.7	21.1	6.1	7.4
19	20.0	23.3	5.9	6.7	7.0	15.3	4.3		24.7	26.4	20.5	3.4
20	6.9*	10.7	5.6	5.9	3.1	9.0			13.2	13.5	14.5	5.8
21	6.9*	5.4	2.6	7.1*	9.8	7.3		26.7		18.9	10.5	10.5
22	7.8		3.1	7.1*	6.3	18.7	8.1	25.5	5.4	23.8	9.6	11.6
23	7.8*			5.0	6.7	9.3	10.0	21.6	3.6	21.7	5.8	6.7
24	7.8*	6.7*	8.8*	6.3	5.4	11.3	5.6	19.0	5.1	22.9	7.4	7.5
25		6.7*	8.8*	3.9	10.1	11.5	4.1	9.0*	10.6	17.3	18.6	15.8
26	6.0	4.6	6.2		3.4*	14.4	4.2	9.0*	15.6	18.8	8.4	
27	10.2*	7.9	5.2	15.8	3.4*	9.7	5.6	14.2	19.5	12.2	10.1	7.0
28	10.2*	19.7	12.4	5.7	4.7	7.5	5.6	11.9		6.4	15.0	6.4
29	11.3		21.1		4.7	9.3	4.1	7.5	6.4	9.1	7.7	11.7
30	8.5*		9.8		6.9	4.9	6.8	10.3	10.5	9.4	7.1	9.4
31	8.5*		1.6*		6.6		8.0	13.6		7.6		13.8
MONTHLY MEAN	12.4	11.3	8.9	7.2	8.9	9.4	6.1	11.3	12.7	15.9	10.4	6.9

TABLE 3.135 TOTAL SUSPENDED PARTICULATE MATTER, $\mu gm/m^3$ CINCINNATI, 1963

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.	DEC.
1		99		90*	78		120	131	110	209	144	65
2		93		151	170	157		171	118	149	97	71
3			254*	158	187	124	127	121	118	156		94
4			254*	138	187	112	122	120	142	137	102	104
5	130	202	107	113	139	125		85	99	240	94	88
6	199	389	68	183	81	145		91	156	183	96	90
7	126	255	93	158*	160	140		94	301	147	114	104
8	102	141		158*	206	155	84	98	224	181	111	74
9	112			169	229	89	179	160	209	237	214	49
10	155				191	111	123	142	257	290	189	79
11	114			109	180	167	109	115	141	164	129	89
12	119			170	61	90	188	136	172	184	148	65
13		125		148	110	136	177	96	147	96	136	100
14	78	128	121	76	125	106	64	71	67	171	83	102
15	111			128	148	111	95	101	71	260	136	84
16	181			166	97	116	136	188	140	230	127	97
17	208			156	116	109	166	112	187	257	82	166
18	213	141	94	176	124	180	112	103	287	244	89	98
19	228	251	87	180	129	205	106		309	282	178	92
20	105*	193	77	177	71	153			204	156	164	93
21	105*	122	55	109*	182	106		210		172	102	109
22	126		71	109*	136	162	86	214	59	267	114	131
23	109*			107	122	95	157	271	69	262	70	90
24	109*	101*	102*	74	82	127	92	190	86	244	62	104
25		101*	102*	80	162	210	73	103*	142	242	111	168
26	81	126	81		75*	204	90	103*	241	248	103	
27	103*	117	80	180	75*	222	127	143	305	158	113	83
28	103*	240	141	70	85	175	76	164		125	171	102
29	138		238		111	160	68	127	136	97	75	112
30	112*		146		114	81	120	125	92	136	81	111
31	112*		90*		91		107	126		138		135
MONTHLY MEAN	131	166	119	136	130	140	116	135	164	196	118	98

TABLE 3-137 GROSS BETA RADIOACTIVITY, picocuries/m^3 CINCINNATI, 1963

	JAN.	FEB.	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.	DEC.
1				11.3*	11.2		8.2	9.8	3.1	2.1	1.7	0.6
2		4.5		14.4	13.7	13.0		8.2	4.7	3.1	1.0	1.0
3			9.9*	20.8	9.2	10.7	10.8	9.1	4.6	3.6		1.3
4			9.9*	18.9	16.2	9.5	6.6	7.0	2.7	1.4	1.5	1.5
5			2.5	7.6	19.7	11.0		9.0	1.5	1.7	2.0	0.9
6			3.1	4.8	8.8	9.1		10.4	4.3	3.2	2.1	0.6
7			5.5	10.0*	12.3	10.8		10.8	5.9	4.0	0.8	1.3
8				10.0*	8.5	12.4	2.8	10.4	5.2	3.7	1.3	1.5
9				14.5	9.1	10.1	7.5	11.2	4.4	1.5	2.0	0.4
10					13.7	9.3	15.0	5.9	3.6	2.4	1.5	0.5
11				1.3	6.2	12.5	11.9	9.0	3.1	2.7	1.6	0.5
12				2.6	10.8	3.4	8.0	9.6	4.1	3.6	1.1	0.3
13				4.9	26.7	14.6	7.8	5.4	3.0	2.4	0.9	1.0
14			3.5	9.6	7.2	9.1	6.4	5.1	4.6	2.0	0.2	1.1
15				14.3	4.5	8.0	6.3	2.8	1.3	3.5	0.4	0.7
16				14.8	2.3	8.9	7.5	1.4	1.0	2.3	0.5	0.8
17				17.2	6.9	9.8	7.6	5.9	4.3	2.6	1.1	0.8
18			5.2	18.0	3.4	14.3	5.9	3.8	5.1	3.1	1.6	1.1
19			4.6	16.8	12.3	13.6	3.8		5.2	2.2	1.5	0.7
20	6.9*		7.8	16.8	11.7	15.4			3.4	1.8	1.8	1.0
21	6.9*		5.8	17.3*	9.1	7.8		1.2		1.9	2.0	0.8
22	13.5		6.8	17.3*	7.4	10.3	9.4	2.4	1.9	1.8	2.1	0.8
23	10.1*			7.5	10.5	12.9	8.4	4.3	0.1	2.4	1.9	0.4
24	10.1*		12.0*	3.0	12.0	16.4	10.0	4.5	2.4	2.2	0.7	0.5
25			12.0*	8.9	11.9	15.1	8.7	3.3*	3.5	1.1	1.4	2.0
26	11.8	7.9	7.7		10.4*	9.9	7.6	3.3*	4.6	1.2	1.4	
27	11.8*	7.2	2.2	10.7	10.4*	14.2	4.7	4.9	5.3	1.4	2.0	1.1
28	11.8*	10.0	10.9	11.7	7.6	12.8	5.2	4.6		2.1	1.7	0.9
29			15.5		6.5	11.7	3.7	2.5	4.9	2.0	1.4	1.9
30			15.4		5.6	7.8	6.0	2.2	1.0	0.8	0.8	1.1
31			11.3*		14.4		9.0	4.5		0.7		1.0
MONTHLY MEAN	10.4	7.4	8.0	11.7	10.3	11.2	7.6	5.9	3.5	2.3	1.4	0.9

Continuous
Air
Monitoring
Program

APPENDICES

A: INSTRUMENTATION AND METHODS
B: REFERENCES

APPENDIX A: INSTRUMENTATION AND METHODS

INSTRUMENTATION

The gaseous pollutant instrumentation was originally developed and fabricated by a private firm under contract with the Public Health Service;* the calibration techniques were developed by the CAMP staff. When subsequent field operations have disclosed difficulties, instrument modifications have been made by CAMP personnel; all the instruments have been modified, and some of the changes have been major. In addition, the calibration techniques, particularly for the "wet" instruments, have been continuously studied and frequently revised.

The gas-measuring instruments, as modified, are thus unique. The other instruments at the CAMP stations (high-volume and spot-tape particulate samplers) are, in contrast, intentionally identical with many others used throughout the country.

Sulfur Dioxide

The SO_2 instrument is based on a conductometric method of analysis. The sample air stream is drawn through a dilute sulfuric acid solution containing hydrogen peroxide. Sulfur dioxide in the sample stream is oxidized to further ionize the solution. Any change in the conductivity of the solution, compared to a reference cell, is proportional to the SO_2 concentration, and may be measured in either of two ranges, corresponding to 0-2 and 0-10 ppm of SO_2.

This instrument is very stable and presents few calibration difficulties. The electronics are checked daily by switching to a built-in circuit that simulates 1.5 ppm SO_2. At least weekly, the air flow is manually eliminated to simulate a zero condition. The upscale range is statically calibrated at least monthly with standard solutions, and very little drift has been apparent. Dynamic calibration is performed at least once a year with standard gas mixtures diluted at the site.

The response time of the instrument is about 8 to 12 minutes; this lag causes some smoothing of concentration peaks of about 10-minute duration, which are believed to occur in some locations. Since the instrument response is largely a function of the reagent movements, improvements are being sought in the liquid flow controls and design details.

The conductometric analysis is considered very accurate; although it reacts to any ionizable substance, it is essentially specific for SO_2 because no other such substance occurs significantly in the normal urban atmosphere. Other instruments, more specific for SO_2, are being investigated.

Oxides of Nitrogen

The NO_2 instrument is based on a colorimetric technique, incorporating Saltzman reagent† to quantitatively form a magenta color. The color is measured by a ratio photometer (operating at 545 millimicrons), which has a 90 percent response equivalent to 1 ppm of NO_2. Such colorimetric analysis is considered accurate within 10 percent.

The effluent air from the NO_2 instrument is bubbled through an acidified potassium permanganate solution to convert NO in the stream to NO_2. The stream then passes into an identical instrument, which measures the original NO concentration as NO_2.

These instrument systems are subject to considerable zero drift; hence they are purged (with carbon-filtered air) daily at a time when pollutant levels are usually low, the zero correction being recorded daily and the instrument reset when the drift becomes excessive. The scale range is calibrated with colored optical filters at least biweekly and also after each cleaning or adjustment of the photometer. In addition, both instruments are dynamically calibrated periodically with standard gas mixtures prepared at the CAMP station.

The response time of the NO_x instruments is about 15 to 20 minutes, part of which is inherent in the reaction that produces the color changes in the reagent; the remainder is due to engineering features of the instruments necessary to insure the desired precision. Although this response time is the longest of any of the CAMP instruments, it is not considered a major problem because NO_x levels are believed to fluctuate less rapidly than those of other pollutants.

Total Oxidant

The total oxidant instrument reacts the sample air stream with a neutral 10 percent potassium iodide solution, releasing free iodine in the presence of oxidizing agents. A ratio colorimeter (operating at 345 millimicrons) measures the color of the liberated iodine against a reference, operating in the range 0-0.5 ppm of oxidants. The instrument records the presence of any substance capable of oxidizing iodide in the KI solution, such as ozone, the peroxyacetyl nitrates, to a lesser extent the nitrogen oxides, and others.

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*Contract No. SAph 76457, Beckman Instruments, Inc., Fullerton, California

† A reagent containing sulfanilic acid, N-(1-naphthyl)-ethylenediamene dihydrochloride, and acetic acid; see Reference 12.

Sulfur dioxide produces a negative interference, driving the oxidation reaction back toward the neutral potassium iodide. This interference is troublesome, and dictates extreme caution in interpreting oxidant data from any location in which SO_2 occurs simultaneously in appreciable amounts. The large proportion of time for which zero oxidant concentration is reported represents those times when the concentration was truly zero plus those times when SO_2 completely suppressed the oxidant measurement. Thus the only positive statement that can be made is that the appearance of a measured oxidant concentration indicates the actual presence of that level or higher in the atmosphere.

If the interference can be reasonably quantitated, of course, simple calculations can provide more meaningful oxidant information; this has been done with success in some CAMP cities. An absorber device to eliminate the SO_2 interference has been employed since January 1964, but none were operational during 1962 and 1963.

Apart from the SO_2 interferences, the oxidant instrument system presents sensitivity and stability problems, and satisfactory data are acquired only with extensive and careful maintenance. Frequent calibration similar to that described for the oxides of nitrogen systems is required.

Total Hydrocarbon

The total hydrocarbon instrument incorporates a flame ionization detector, in which the sample air stream is introduced into a hydrogen-air flame, where the hydrocarbons are dissociated in the intense heat. The positive carbon ions produced by the dissociation are collected by an electrode above the flame, and the current produced is proportional to the number of carbon atoms ionized. The operating range of the instrument can be as sensitive as 0-10 ppm carbon atoms, although CAMP operates the instrument on a scale of 0-40 ppm.

The flame ionization technique is well established and is considered very precise, and the instrument operates with little difficulty. Because the response of the instrument is normally almost instantaneous, CAMP has incorporated an integrating flask into the system to reduce instrument "noise" and provide about 5-minute averaged data. The hydrocarbon system is dynamically calibrated twice weekly with purified air-methane mixtures in the near-zero and 20-ppm ranges. Since these mixtures are stable, they are prepared and standardized at the Sanitary Engineering Center in Cincinnati and shipped to the CAMP stations. This method of supplying calibration gases, developed by CAMP personnel, offers distinct advantages in precision and logistics over the on-site preparation techniques necessary for the "wet" instruments.

Carbon Monoxide

The CO instrument is a short-path monobeam infrared analyzer, based on the molecular absorption of infrared radiation by carbon monoxide; it is an interesting variant of the more conventional long-path infrared analyzers. The single infrared energy beam is directed in series, as indicated in Figure A-1, through a sample cell containing the flowing sample air stream, and through sample and reference compartments of a dual detector unit, charged with CO-argon mixtures.

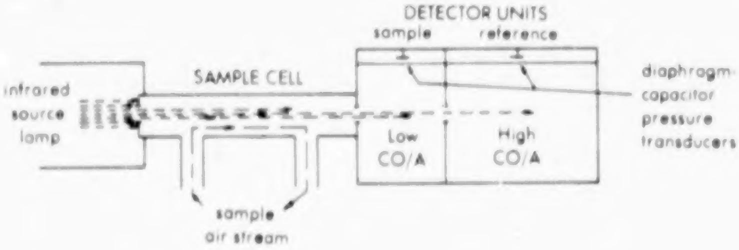

Figure A-1. Schematic Diagram of CAMP Carbon Monoxide Instrument.

The sample detector compartment is charged with a low concentration of CO, which absorbs a quantity of radiant energy dependent upon the amount previously absorbed by the sample air stream. The reference detector compartment contains a high concentration of CO, which absorbs enough radiation to be largely unaffected by the slight fluctuations in incident energy produced by varying absorption in the sample cell and sample detector unit. It thus provides a very stable reference, with which absorption in the sample detector is differentially compared. In each compartment, the energy absorbed is measured by pressure transducers.

The instrument can give very rapid response, but integration time of about 5 minutes has been introduced in the same manner as with the hydrocarbon system. The instrument is extremely sensitive along the entire range (0-100 ppm), and is dynamically calibrated twice weekly in the manner described for the hydrocarbon instrument.

Both water vapor and carbon dioxide absorb infrared radiation at wavelengths very near the absorption wavelength of CO. The degree of such interference is measured periodically by filtering the sample stream through columns of silica gel and ascarite. When interferences are significant, the CO data are declared invalid and are not reported. Because of such interference, valid CO data were often sparse, and on occasion nonexistent, during most of the first year of CAMP operation. Since December 1962 this problem has been largely eliminated by addition of an infrared filter, which narrows the radiation band of the source lamp to converge on the CO absorption wavelength.

Particulates

The high-volume air samplers in use at the CAMP stations are of the type used by the National Air Sampling Network and by most state and local agencies. Particulate samples are collected on 8- by 10-inch glass fiber filters considered 100 percent efficient for particles about 0.3 micron in diameter and larger; vertical influent airflow velocity limits the sample to particulates smaller than about 100 microns in diameter.

The filters are analyzed in the same manner as routine NASN samples. They are equilibrated at 75°F and 50 percent relative humidity overnight prior to determination of total particulate weight. Gross beta radioactivity is measured with a proportional-gas-flow counting chamber when the filter is 2 days old and again several days later. The apparent half-life so determined is used to calculate the reported values representing activity on the day sample was collected; these values are also corrected for counter efficiency, filter absorption, and self-absorption. Organic particulates are determined by extracting an aliquot of the filter in redistilled benzene for 6 to 8 hours to remove more than 95 percent of the benzene-soluble organics; the organic extract is filtered and dried to remove the solvent before the residue is weighed. More detailed descriptions of analytical procedures and sampling methods are available in the 5-year summary of NASN operations.[13]

Soiling index measurements are obtained at the CAMP stations with a standard automatic paper-tape sampler. Air is drawn at 0.25 cfm through a 1-inch circular "spot" on Whatman No. 4 filter paper tape for a 2-hour period, the sampler advancing the tape automatically. The tapes are periodically removed and the percentage of light transmission through the soiled spots is compared to that of the clean tape.

DATA RETRIEVAL SYSTEM

Each of the instrument systems for gaseous pollutants produces an electric output signal which drives a strip chart recorder. At 5-minute intervals, the signal is momentarily diverted to an analog-to-digital recorder, which records the magnitude of the signal on punched paper tape. Thus the basic data represent the instantaneous value recorded by the instrument at 5-minute intervals.

The data are translated from punched paper tape to punched cards for the creation of a magnetic tape for an electronic computer. Throughout the several steps of this process, extensive hand checking is done.

METHODS OF DATA ANALYSIS

The information presented in this volume is derived from the data through the application of several analytical techniques. Some of these are common statistical methods, while others have been developed primarily for use with the CAMP data. The tremendous quantities of data have necessitated the programing of even the simpler techniques for the digital computer facility of the Robert A. Taft Sanitary Engineering Center. This section describes some of the analytical techniques employed and their application to the CAMP data, both as background to the results reported in Part 2 and as an illustration of the type of additional material available on request.

Frequency Distribution

Frequency distribution analyses summarize the frequency of occurrence of the various pollutant concentrations recorded. The pollutant concentrations tabulated in the frequency distribution tables represent the concentration that was not exceeded by the specified percentage of the total data considered. Although such a distribution is properly termed a relative cumulative frequency distribution, the phrase "frequency distribution", or merely "distribution", is used in the text for convenience. Frequency distributions of this type provide a convenient means for determining the median pollutant concentration and data for specific frequencies, such as the concentration exceeded 2 percent of the time, the concentration below which the pollutant level fell 10 percent of the time, etc.

The graphical presentations of frequency distributions are drawn to logarithmic-probability scales; if the logarithms of the pollutant concentrations were distributed according to a normal probability distribution, the resulting curve would be linear, and the data would be described as being lognormally distributed. The slope of a curve plotted to such scales is a function of the variance of the population of data included, with a steeper slope representing more variable pollutant levels. The vertical placement of the curve is determined by the magnitude of the pollutant concentrations. Thus a curve that has an inflection represents data recorded from two relatively distinct populations with differing variances or levels.

Most of the frequency distributions presented in Part 2 were extracted from more extensive tabulations of the type presented in Table A-1. For any specified period, the computer program first sorts the 5-minute data and calculates a frequency distribution by standard statistical methods; it then generates a new input with 10-minute means, and returns to sort these data. This process is repeated to provide frequency distributions of data averaged over 5, 10, and 30 minutes, and 1, 4, 12, and 24 hours.*

The frequency distributions of the data averaged for longer times are primarily designed to provide information for a detailed investigation of averaging times used in sampling for various pollutants. This work and similar specialized reports will be published separately, and will include detailed explanations of the methods of analysis.

Dosage

The dosage analysis referred to in Part 2 is essentially a search for times when the pollutant concentration equalled or exceeded a prescribed level. When such an event is found, the analysis program calculates the dosage, or area (in ppm-hours) under the concentration curve by a trapezoidal approximation. It tabulates the events and tallies them into a two-way frequency distribution by dosage and duration.

The use of the dosage concept as a technique for summarizing pollutant exposure is in the developmental stages, and the analysis is used here only to locate the highest pollutant levels. When the study of exposure indices is complete, a detailed report will be published.

TABLE A-1
TABULATION FROM FREQUENCY DISTRIBUTION ANALYSIS PROGRAM

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                                   CONTINUOUS  AIR  MONITORING  PROGRAM

FREQUENCY DISTRIBUTION OF CONCENTRATION OF GASEOUS ATMOSPHERIC POLLUTANTS FOR SELECTED AVERAGING TIMES

                                           CINCINNATI, OHIO
                                         SULFUR DIOXIDE (PPM)
                                      AUG 01, 1963 -  AUG 31, 1963

AVERAGING  % DATA           F R E Q U E N C Y   D I S T R I B U T I O N - P E R C E N T                  ARITH.
  TIME      USED    MIN    10     30     50     70     90     92     94     96     98      MAX     MEAN

  5 MIN.    89.2    0.00   0.00   0.00   0.01   0.01   0.02   0.03   0.03   0.05   0.07   0.99     0.01
 10 MIN.    89.3    0.00   0.00   0.00   0.01   0.01   0.02   0.03   0.03   0.05   0.07   0.99     0.01
 30 MIN.    89.4    0.00   0.00   0.00   0.01   0.01   0.03   0.03   0.04   0.05   0.07   0.62     0.01
  1  HR.    89.5    0.00   0.00   0.00   0.01   0.01   0.03   0.03   0.04   0.05   0.06   0.42     0.01
  4  HR.    89.8    0.00   0.00   0.00   0.01   0.01   0.03   0.03   0.03   0.04   0.06   0.15     0.01
 12  HR.    88.7    0.00   0.00   0.00   0.01   0.01   0.02   0.03   0.03   0.04   0.05   0.05     0.01
 24  HR.    90.3    0.00   0.00   0.00   0.01   0.01   0.03   0.03   0.04   0.04   0.04   0.04     0.01
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*The frequency distributions for carbon monoxide and total hydrocarbons over weekend and weekday periods are calculated by a different computer program, which produces only distributions of the 5-minute data.

APPENDIX B: REFERENCES

1. HEARINGS before a SPECIAL SUBCOMMITTEE ON AIR AND WATER POLLUTION of the COMMITTEE ON PUBLIC WORKS, United States Senate, 88th Congress, First Session, September 9, 10, and 11, 1963, U.S. Government Printing Office, 1963.
2. Lewis, Rudolph P., et al. AIR POLLUTION IN GEORGIA, Georgia Department of Public Health and U.S. Department of Health, Education, and Welfare, Public Health Service, 1962.
3. Hochheiser, Seymour, Horstman, Sanford W., and Tate, Guy M., Jr. A PILOT STUDY OF AIR POLLUTION IN BIRMINGHAM, ALABAMA, Robert A. Taft Sanitary Engineering Center Technical Report A62-22, Cincinnati, Ohio, 1962.
4. Sheehy, James P., et al. A PILOT STUDY OF AIR POLLUTION IN JACKSONVILLE, FLORIDA. Public Health Service Publication No. 999-AP-3, 1963.
5. Bureau of the Census. CITY-COUNTY DATA BOOK 1962, U.S. Government Printing Office, Washington, D.C.
6. PRELIMINARY REPORT: MASTER PLAN FOR HAMILTON COUNTY, OHIO prepared for the Regional Planning Commission, Hamilton County, Ohio by Harland Bartholomew and Associates, St. Louis, 1961.
7. DIRECTORY OF MANUFACTURERS 1961. Chamber of Commerce, Cincinnati, Ohio, 1961.
8. MOTOR VEHICLES, AIR POLLUTION, AND HEALTH. U.S. Department of Health, Education, and Welfare, Public Health Service, House Document No. 489, 87th Congress, 2nd Session, U. S. Government Printing Office, Washington, D.C., 1962.
9. Miller, Marvin E., and Niemeyer, Lawrence E. "Air Pollution Potential Forecasts - A Year's Experience," U.S. Weather Bureau Research Station, Robert A. Taft Sanitary Engineering Center, Cincinnati, Ohio, 1962.
10. Niemeyer, Lawrence E. "Summer Sun - Cincinnati Smog: A Recent Incident," Journal of the Air Pollution Control Association 13:8, p. 381, August, 1963.
11. Lynn, D. A., Steigerwald, B. J., and Ludwig, J. H. THE NOVEMBER - DECEMBER 1962 AIR POLLUTION EPISODE IN THE EASTERN UNITED STATES, Public Health Service Publication No. 999-AP-7, 1964.
12. Saltzman, B. E. "Colorimetric Determination of Nitrogen Dioxide in the Atmosphere," Anal. Chem. 26, 1949-55 (December 1954).
13. AIR POLLUTION MEASUREMENTS OF THE NATIONAL AIR SAMPLING NETWORK, 1957-1961, Public Health Service Publication No. 987, U. S. Government Printing Office, Washington, D.C.

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